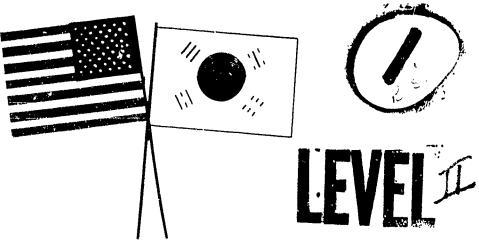
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REPUBLIC OF KOREA



UNITED STATES



ARMY AVIATION SEMINAR

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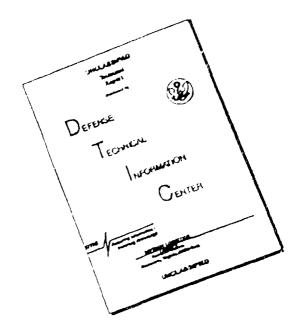
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REPUBLIC OF KOREA ARMY AVIATION STUDY GROUP
AFTER ACTION REPORT,

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TABLE OF CONTENTS

PART I

Summary	<u>n</u>	Page 1-5 with 7 Inclosures
	PART II	
After Action Report	•••••	6-12 with 23 Inclosures
·. \.*	PART III	• •
Man hours worked		TAB A
Lessons Learned		TAB B

I. Introduction: On 23 August 1978, General Vessey, Commander, Combined Forces Command/US Forces, Korea, requested DA assistance for the Republic of Korea in their transition to a modern aviation fleet.

II Purpose: The Republic of Korea Army Aviation Seminar was prepared to meet General Vessey's request and to provide a basis of US Army experience upon which the Korean Army can build during it's expansion program.

III Discussion:

- a. Background. Because of General Vessey's request a "fact finding" team visited Korea during the period 30 October 4 November 1978. Team members were MG Smith, CG, USAAVNC; COL Parker, USAAVNC; LTC Robinson, CAC and MAJ(P) Walker, HQDA. Fact finding efforts consisted of a series of visits, tours, briefings and discussions throughout the ROKA aviation community.
- b. Objectives. The team determined appropriate subjects for an aviation seminar and developed a work plan for a one week conference/
 workshop series. The seminar would commence with a general presentation followed by a series of workshops.

The general officer presentation would portray concepts for employment of Army aviation through the use of a stylized scenario. Workshops would concentrate on one of three major topics; management, training, and logistics.

c. asking. TRADOC was tasked with preparing the seminar and subsequently passed the task to the USAAVNC. A work study group was formed on 8 January 1979 at Fort Rucker. Project Officers were provided by the Transportation Center, the Troop Support and Aviation Materiel Readiness Command, Combined Arms Center (CAC, Ft. Leavenworth, KS). ODCLOG, DA, and the Aviation Center. A personnel roster of the study group is included at Inclosure 1.

- d. Methodology. Preparation for the seminar closely followed the milestone chart found at Inclosure 2. This plan was found to be timely and adequate for mission accomplishment. This was due, to some extent, to using the format that was previously developed for the Army Aviation Employment Conference seminar. Issue papers were written, translated and distributed prior to the conference/seminar so that participants were familiar with the material to be covered. Agenda for the seminar is at Inclosure 3.
- e. Summary of Seminar Activities. The advance party officer,
 CPT Frank departed for Korea on 19 March 1979. His responsibilities
 in Korea included insuring all materials shipped were on hand, translations, set up of conference rooms and workshop areas and coordinating
 all other administrative details.

The main body departed from various locations and gathered at Seattle on 3 April. The team arrived in Korea on 6 April and spent 6 and 7 April in preparation and rehearsal. COL Parker, who was attending required schooling the week of 2-6 April arrived in Korea on 9 April.

Following is a summary of activities for the period 9-16 April 1979.

1. General Officer Presentation - 9 April 1979.

On 9 April 114 ROK and US Senior officers attended the General Officer presentation.

The General Officer Presentation began with opening remarks by General John W. Vessey, CINC and by General Chung, Seung Kwa, Chief of Staff, ROKA, and by MG James C. Smith, Director of Training, ODCSOPS, DA Team Chief. After opening remarks the team presented a stylized scenario (SECRET) presentation to illustrate the uses of Army Aviation in a Korean war time tactical situation.

Following the scenario, MG Smith presented a summary of Fundamentals of Army Aviation Employment which supplemented and illustrated the various points made in the scenario.

Mr. Joseph Cribbins, Special Assistant to DCSLOG, followed MG Smith and presented an overview of important Aviation Logistics topics that would be presented during the Logistics Workshop. The General Officer Presentation concluded with questions from the audience and final remarks.

2. On Tuesday, 10 April, the second General Officer Presentation was given for a group of 67 ROK and US senior officers. The format was as given on 9 April.

Opening remarks were again made by General Vessey and by General Lew, Byong Hion, Deputy Commander, Combined Forces Command. Presentation of the scenario and Aviation Employment Fundamentals and Logistics Overview was as given on 9 April. Because of requests for discussions on Management, LTC Robinson presented a 15 minute overview of the Management Workshop.

The General Officer Presentation concluded with questions from the audience and closing remarks.

3. During the period 11-13 April, team members conducted workshops in Management, Training and Logistics for officers of the ROK Army. Workshops were held from 0800-1700 daily. The Management and Logistics Workshops were held in Conference Rooms in ROK Army Headquarters. The Training Workshop was held in ROKA Command Bunker, B-2.

Workshops were conducted using formal presentations and discussions of the subject matter. Each attendee was provided a copy of the issue papers for his workshop. A summary of the subjects covered in the workshops is found at Inclosures 4.5 and 6. Format for each workshop included a short formal presentation with Korean translation. This was followed by a discussion among the workshop participants on the issue and finally conclusions and/or recommendations were prepared.

Upon completion of the workshops on 13 April, Korean senior attendees worked with the Korean participants to prepare a summary of their conclusions and recommendations, to be given on 14 April. This summary would be presented by MC Kang, Young Sik, DCS for Operations, ROKA and all workshop attendees.

On 14 April the summary of workshop conclusions and recommendations was presented in the ROKA Hendquarters Conference Room. Conclusions and Recommendations were prepared on all topics. Those of particular

significance were later highlighted by MG Smith in his exit briefing with General Vessey and are found at Inclosure 7.

On 16 April, MG Smith conducted exit interviews with MG Harry A. Griffith, Chief, JUSMAG-K and General Vessey. The team departed the Republic of Korea on 16 April at 1430 hours.

- f. Findings and Conclusions. As the seminar was developed to assist the Republic of Korea Army, no U.S. Findings or Conclusions were prepared.
- g. Recommendations. US recommendations for further action are as indicated above, at Inclosure 7.

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PERSONNEL ROSTER AD HOC STUDY GROUP

Sp Asst to DCDR COL Ellis D. Parker

Korean Liaison LTC Lee, Jon; Won

LTC Charles A. Robinson CDC - Ft. Leavenworth

LOGISTICS
LTC Dennis P. Vasey, DCSLOG
MAJ Thomas Bruns, Ft. Eustis
GS-12 Wm. Arnett, TSARCOM GS-14 Paul McLaird, TSARCOM GS-13 Paul Leible, TSARCOM

MANAGEMENT
MAJ David Kummer, DTD CPT Frank Green, DOAT CPT Daniel Frank, DOFT

TRAINING
MAJ John Shields, DES
CPT Dale Sanders, DOFT CPT Thomas Wiktorek, DTD

ADMINISTRATION MAJ Thomas Watts,

Mrs. Sharon Robertson Mrs. Alice Gordyn

MG James C. Smith and Mr. Joseph Cribbins were mentors during workshop presentations.

MILESTONES

JANUARY	
9 - 19 .	- Review of literature and other information
11 - 31	- Work Group discussion
15	- Desk side briefing derived from butcher paper charts
19	- Rough Logistics Issue Drafts; Scenarios
20	- Items for US/ROKA presentation
23	- In Progress Review
30	- Final Seminar Drafts; Final Desk Side Briefing
(As Required)	- Conduct information briefing and review
FEBRUARY	·
13	- Progress Review; Draft Scripts for Seminar Leaders
23	- Full Dress Rehearsal
28	- Briefing packets to Korea for translation
xx	- ROKA officer visit (should be scheduled between 9 - 20 Feb to comment on proposed seminars and workgroups)
xx ′	- Media assistance (VGT correlation with issues)
xx	- Issues to JUSMAG-K for ROKA (after dress rehearsal)
	•
MARCH	- ·
7	- Final decision on conference briefers. Agenda final.
12	- Changes incorporated in scripts
15	- Scripts to briefers not working with study group
15	 Task host representatives to establish location of conference. (Provide details of visual aids, audio requirements.)

MARCH

24

- Action Officer make reconnaissance/coordination visit to review site. (During visit, insure visual aids

set up IAW plan.

26

- Complete final travel arrangements for travel to Korea

APRIL

6

- Arrive Korea

7, 8

- Preparations for presentations/rehearsals

9, 10

- General Presentation

11, 12, 13

- Workshops

14

- Summary Review

16

- Departure from Korea

DAV 1 /0 A=====1) FUCA COMPEDENCE BOOM
DAI I (A ADLII) EUSA CONFERENCE ROOM
1300-1305	General Vessey's remarks
1305-1320 .	MG Smith's remarks .
1320-1430	Scenario
1430-1445	Break
1445-1545	Comments by MG Smith and Mr. Cribbins
1545-1600	Break
1600-1700	General Presentation (Overview) by LTC Robinson/Mr. Cribbins
1700-1715	Closing remarks - ROKA General Officer
DAY 2 (10 Apri	1)
1300-1715	Same as Day 1
1715-1730	G.O. and Senior attendees excused, break for Workshop attendees
1730	Common Subjects presentation for Workshop attendees
DAY 3 (11 Apri	1)
	WORKSHOP #1 - GENERAL MANAGEMENT SUBJECT BLDG 1 ROKA HQ
0800-0900	Combined Arms Team
0900-1000	Combat Service Support (*ROKA/JUSMAG)
1000-1100	TOE 79 versus 82
1300-1400	Equipment & Facilities 79 versus 82
1400-1700	Total Systems Integration
1700-1800	Conclusion of the days discussion

TRAINING WORKSHOPS ROKA BUNKER #2

WORKSHOP	#1 -	TRAINING	DEVELOPMENTS
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	WORKSHOP WI - INAINING DEVELOTREMIS
0800-0900	Training Developments (Instructional Systems Design)
0900-1000	Aircrew Training Manuals and ARTEPS
1000-1100	Publications and Aids
1300-1400	Simulators, SFTS, Software
1400-1700	OJT - Interoperability *JUSMAG (originally in Workshop 1 on the work plan)
1700-1800	Conclusion of the days discussion
	LOGISTICS WORKSHOPS BLDG 1 - ROKA HQ
•. •.	WORKSHOP #1 - MAINTENANCE - ARMAMENT AND AVIONICS
0800-0900	Introduction and Logistics Overview
0900-1000	US Army - Three Level Concept
1300-1400	Aircraft Maintenance Quality Control Program
1400-1500	Aviation Ground Support Equipment
1500-1600	Phased Maintenance
1600-1700	Army Oil Analysis Program
1700-1800	Conclusion of days discussion
DAY 4 (12 Apri	1) WOKKSHOP #2 - MANAGEMENT OPPORTUNITIES
0800-0900	Look at Reorganization
0900-1000	Use of Civilian Flight Instructors
1000-1100	Three Level versus Four Level Maintenance

Three Level versus Four Level Maintenance continued

1300-1430

1430-1530	Contract Maintenance at Depot
1530-1700	Air Space Management
1700-1800	Conclusion of the days discussion
	WORKSHOP #2 - AVIATOR TRAINING
0800-0900	Initial Entry - Rotary Wing
0900-1000	Qualification Tracks
1000-1100	Transition - Rotary Wing to Rotary Wing, etc.
1300-1400	Enlisted Training - Crew Chief, Aircraft and Component Repair
1400-1500	Armament
1500-1600	Aviation Related Training for Non-Aviation Personnel (Air Assault and Pathfinder)
1600-1700	Conclusions of the days discussion
	WORKSHOP #2 - LOGISTICS
0800-0900	Forward Arming and Refueling Point
0900-1000	Training Development Philosophy
1000-1030	Aviation Maintenance Officer and Repair Technician Training
1030-1100	Aircraft Repair Supervisor and Technical Inspector Training
1300-1400	Depot Maintenance - Contract/Organic
1400-1500	On Condition Maintenance/Analytic Condition Evaluation (OCM/ACE)
1500-1600	Depot Supply
1600-1700	Aviation Intensive Management Items (AIMI)/ Aviation Component Intensive Management System (ACIMS)
1700-1800	Conclusion of days discussion

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DAY 5 (12 April)

WORKSHOP #3 - OTHER MANAGEMENT CONSIDERATIONS

Rapid Growth

Funding Constraints

Language Training

Recruitment

Nole of Aviation

) - * ROKA

Lateral Coordination

WORKSHOP #3 - TACTICAL TRAINING

0800-1100	Tactical Training
1300-1400	Safety
1400-1500	Standardization and Evaluation
1500-1600	Integration of Army Aviation Employment into Service School Instruction
1600-1700	Conclusion of days discussion
	WORKSHOP #3 - LOGISTICS MANAGEMENT
0800-0900	Aircraft Systems Management
0900-1030	Aviation Logistics Management Techniques
1030-1100	Rationalization, Standardization and Interoperability
1300-1700	JUSMAG, 17th Group and ROKA presentation
1700-1800	Conclusion of days discussion
DAY 6 (13 Apri	1) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ.
0900-1100	Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action

Officer from each WS.

^{* -} Topic to be presented by JUSMAG or ROKA, as indicated.

SUMMARY OF SUBJECTS COVERED IN THE MANAGEMENT WORKSHOP

Succeeding paragraphs contain a summary of the management matters covered in detail during the workshop and in the issue papers provided to the Republic of Korea Army.

Combined Arms Team:

This issue discussed the lessons learned and value to the ground commander of application of the Combined Arms Team concept. The advantages in mobility and fire power developed and this was supplemented with the strong need for training to prepare both ground and air commanders for effective combined arms teamwork. Finally the purposes for the concept were listed and objectives for training were developed.

Combat Service Support:

Through a discussion of the fundamentals of combat service support, this issue developed the need for commanders to man, supply and repair their weapons systems. The importance of effective management of all resources was stressed. This lead to a specific discussion of the management of aviation logistics. One area of special insterest was the relationship of maintenance, readiness and the Flying Hour Program. This was related to the importance of managing combat flight hours and the use of the Forward Arming and Refueling Point (FARP).

Force Structure:

The discussion of Force Structure was divided into a portion on TOE 79 versus 82, and Equipment and Facilities. The portion of the issue on 1:)E 79 versus 82 described the Concept and Process of Force Structuring. These were related to mission accomplishment, and

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ment of TOE 79 versus 82 lead to the needs for Equipment and Facilities.

This portion enumerated the need to insure that all support for a unit was a part of TOE planning. This included requirements for communications, mobility, and Aircraft Survivability Equipment (ASE). Finally the requirements for expanded training and combat service support facilities were discussed.

Total Systems Integration:

This issue developed the need for Total Systems Management and described several basic models for problem solving and development of new weapons systems. The Life Cycle Management Model, in simplified form, was explained and then this concept was applied to the growth of ROKA aviation. Each major subsystem of aviation, personnel, logistics, training, and equipment was developed from 1982 backward to 1979 to demonstrate a sample of the systems integration process. To conclude the presentation the whole process was shown in a stylized diagram, likened to the growth of a river from it's tributaries.

Maximum Utilization of Facilities and Instructors:

In this issue the advantages and disadvantages of three methods of training (Unit Training, Fort Rucker Training and ROKA School Training) were discussed. For each method the relative importance of cost, personnel resources, and impact on unit readiness was determined.

Use of Civilian Flight Instructors:

As in the previous issue, three alternative means to establishing a base of instructor assets were developed. Considerations for use of ROK Army Civilians, or Korean Contract Flight Training or a Third Party

Contract were based on cost, availability and short time versus long term needs.

Three Level Versus Four Level Maintenance:

Though this issue is primarily logistics oriented, the Management Workshop discussed the relative merits of each system and the advantages to resource management to be gained. The discussion aimed at developing a solution to meet Korea - unique requirements.

Contract Depot Maintenance:

Using a similar format to the issues on Instructors and Training, this issue evaluated the merit of military depot maintenance versus ROK Army civilian. Korean civilian contract and third party contract maintenance. Alternatives were evaluated on their relative cost, personnel available, and the impact of a war time situation on availability of civilian personnel.

Airspace Management:

This presentation developed knowledge of the control and use of air-space over the battlefield. Specifically control organizations and procedures were discussed and those were applied to a tactical situation to illustrate their use.

Remaining Issues:

All other issues were given as reading material for workshop participants and were not discussed.

SUMMARY OF SUBJECTS COVERED IN THE TRAINING WORKSHOP

Succeeding paragraphs contain a Summary of the Training matters covered in detail during the workshop and in the issue papers provided to the Republic of Korea Army.

Training Developments:

The five phases of the Instructional Systems Development (ISD) process, (Analysis, Design, Development, Implementation, and Control) were introduced. The importance of analysis at the point of performance (in the unit/on-the-job) was stressed. The use of ISD as a model for gathering data to validate and revise performance oriented training was discussed.

ARTEP'S and ATM'S:

ARTEP's and ATM's were introduced as products of the ISD process. The evaluation of ARTEF and ATM task proficiency was shown to provide the commander with a readiness indicator, a tool to prepare succeeding training, and a means to measure cost and effect of training.

Publications and Aids:

The need to produce training materials to support the changing tactics and doctrine associated with the rapid modernization of the ROKA Aviation fleet was discussed. The use of publications directed at performance of a task rather than a technical explanation of an equipment item or process was shown.

Simulator - SFTS - Software:

The UH-1 flight simulator was discussed in detail to include

cost effectiveness, console operator selection criteria, use of instructor pilots, and use of automated training features. A sample training program utilizing the training feature of the UH-1 flight simulator was presented. Software was addressed in relation to the ISD process to determine the critical task for training and then program the simulator to teach them.

Initial Entry Rotary Wing Training:

The US Army Aviation Center's current planning for a rapid increase in the number of initial entry aviators to be trained each year was discussed. A systematic approach similar to the Instructional Systems Development technique determined that programs needed to be developed in the areas of instructional personnel and equipment, increased logistics requirements and student support requirements.

Qualification Tracking:

Qualification tracking is the concept of conducting tactical training of initial entry rotary wing students in the type aircraft they will be operating.

This new program produces a quality aviator, trained for a specific type aircraft, to meet the needs of the Army as they develop.

Transition Training;

As the US Army reduced it's fixed wing aircraft fleet a rotary wing qualification course was established to qualify all fixed wing aviators in rotary wing aircraft.

Two considerations in planning this training were: use of dual rated instructors and the teaching of tactical flying techniques during

the qualification course.

Rotary Wing to Rotary Wing Transitions:

Introduction of several different and complex type aircraft creates the need for qualification training for current aviators into new type aircraft.

In-unit training can produce a fully qualified pilot, but degrades unit readiness and available unit training time. This course of action may be valuable in a situation where a rapid increase in training overloads the service school.

Aircraft and Component Repair Training:

To rapidly expand aviation maintenance training, it is necessary to maximize the use of all available training assets. The techniques available are shift training, self paced learning and consolidation of training.

These techniques allow maximum utilization of classrooms, instructional materials, training devices, tools, and instructors.

· Armanment Repair Training:

New technological developments have increased the cost and complexity of helicopter weapons systems. To provide trained armament repairmen, students with a strong electrical aptitude are selected, and training is conducted utilizing simulators which stress task performance.

Non-Aviation Personnel:

Two programs for personnel in aviation related subjects are Air Assault School and Pathfinder training. The Air Assault School teaches rigging and external transport operations, rappelling, and theory and execution of day and night combat assaults.

The need for knowledgable, skilled, specialists to prepare for and guide helicopters to unfamiliar LZ's at night and periods of poor visibility has caused the Army to revitalize the Pathfinder School to keep it current with modern aviation tactics.

Tactical Training:

Nine tactical training subjects were discussed.

Terrain Flight:

Sophisticated Air Defense systems required the use of terrain flight techniques to enhance survivability and mission accomplishment. Training porgresses in difficulty to increase aviator confidence and proficiency. Training is constantly reinforced to vintain high skill levels.

Night Flying:

The capability to support the Combined Arms Team around the clock through night training was stressed. Medical evaluation of aviators and mental preparation for night flying was covered. Required aircraft modifications as well as improvements in night vision goggles were presented.

Tactical Instruments:

Adverse weather must not be allowed to stop aviation support on the battlefield. Use of tactical instrument flight is critical for sustained aviation support. The critical aspect of tactical instrument flight planning was stressed.

Mountain Flying:

Aviators must be trained in the weather hazards and aircraft

limitations associated with mountain flying.

Helicopter Gunnery:

Gunnery at terrain flight altitudes requires new training techniques. New procedures require a greater emphasis on aircraft preparation and detailed knowledge of how to fight the ground bettle.

The expense of training can be offset by using simulators.

Air Space Management:

Control of air space users is vital to orchestrate the battle. This discussion was very basic with emphasis on the need to train all tactical planners and airspace users and to demonstrate the complexity of the battlefield.

Air to Air Combat:

The helicopter is a major weapon on the battlefield and is subject to attack from the air. Current J-Catch results were shared to provide ROKA assistance in developing tactics to meet this threat.

Aircraft Survivability Equipment (ASE):

In order to survive on the modern bettlefield, aircraft and crews must be able to avoid and detect sophisticated enemy electronic weapons. This presentation described the types of available and the applications of each. The discussion emphasized the ability of this equipment to enhance tactics and conserve aviation assets.

Aviation Safety and Accident Prevention:

The expense of manpower and equipment make conservation of these assets mandatory. Aviation safety and accident prevention responsibilities were discussed and a typical unit accident prevention program was outlined.

Aviation Standardization:

This issue outlined the services, structure and functions

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of an effective standardization program. Duties of the instructor force and feedback to the trainer and commander was emphasized.

Aviation Training in Service Schools:

The importance of training all aviation users and planners was emphasized. To insure success planning and employment must be understood at all levels of command and branches of service. Training of aviation subjects should be integrated as is armor or infantry employment.

SUMMARY OF SUBJECTS COVERED IN THE LOGISTICS . WORKSHOP

Succeeding paragraphs contain a Summary of the Logistic matters covered in detail during the workshop and in the issue papers provided to Republic of Korea Army.

Three Level Maintenance:

As a result of experience gained in Vietnam, Department of the Army restructured it's aviation maintenance from a four level to three level aircraft maintenance system. This reorganization provided more efficient support for Army aircraft, especially during combat. Approximately 60-70% of the Direct Support (DS) maintenance functions were absorbed into the operational units forming Aviation Unit Maintenance or AVUM. The remainder of Direct Support and a portion of General Support (GS) were consolidated into Aviation Intermediate Maintenance (AVIM). The depot level assumed the remaining functions that were time consuming and complicated. This three level maintenance concept is being implemented worldwide with considerable benefits.

Aircraft Maintenance Quality Control Program:

The aircraft maintenance quality control program is an essential component of the US Army's aircraft maintenance system. It insures that maintenance is performed to prescribed standards of quality and efficiency. All US Army aircraft maintenance units have three major components: performance of maintenance, production control, and

quality control. Each component is designed to complement the others and all are equal in importance.

Aviation Ground Support Equipment (AGSE):

As aircraft become more complex and sophisticated, it is even more important to have appropriate aviation ground support equipment. Even though aviators place much importance on aircraft maintenance, too often problems associated with maintaining supporting equipment are overlooked. Aviation ground support equipment is a vital part of the support package for modern aircraft. It must be available and operational to increase the efficiency of aircraft maintenance.

Phased Maintenance:

Army maintenance engineers have found that multiple levels in inspection requirements have increased maintenance instead of reducing it. Phased Maintenance is a program which uses failure rate data from historical files to determine the optimum interval and frequency of component inspection. This reduces the maintenance costs, increases availability and reduces the spare parts cost without adversely affecting reliability, safety or mission accomplishment. Phased maintenance works and is now being used on the UH-1, CH-47 and AH-1 helicopters. This year it will be expanded to include the OH-58.

Army Oil Analysis Program (AOAP):

The US Army has established an aircraft oil analysis program which has been successful. By taking periodic samplings of the oil and using laboratory analysis, component wear and failure can be predicted. When oil analysis discovers potential failure or abnormal

wear, the aircraft is grounded and the component replaced before an inflight failure occurs.

Forward Arming and Refueling Point (FARP):

Modern warfare dictates that we reduce aircraft servicing time to increase aircraft time on-station in support of combat operations. The FARP is a temporary, mobile aircraft servicing point designed to provide service support as close to the area of tactical operations as feasible. Petroleum, Oil and Lubricants (POL), and ammunition are the primary services provided by the FARP.

Aviation Maintenance Officer and Repair Technician Training:

Aviation maintenance officer training has been an essential feature of the US Army Aviation maintenance program. The US Army provides supervisory and technical aviation maintenance training for commissioned and warrant officers in the same course. The purpose of the course is to provide a general knowledge of the Army maintenance program; a working knowledge in the management of aircraft maintenance resources; and a technical knowledge in diagnosis, corrective action and operational checks on Army aircraft. Specialization by aircraft occurs in the last phase where maintenance test flying is taught.

Aircraft Repair Supervisor and Quality Control Technician Training:

Within the US Army aircraft repair supervisors and technical inspectors are trained in the same courses of instruction. This allows for ulitization of a NCO in either position within a maintenance organization. This combined instruction system is a relatively new concept in the US Army. Each supervisor/technical inspector is a

specialist in a certain aircraft type. Factors influencing the consolidation of supervisor and technical inspector training were:

1) increased complexity of aircraft systems, 2) economy in training, and 3) lack of promotion potential for technical inspectors at higher grades.

Depot Maintenance:

It is essential that plans to maintain aircraft at depot level be critically evaluated. With a very small number of aircraft it is ineffective and uneconomical to bring depot maintenance in-house. Accordingly, the US Army relies on contract maintenance for some of our first line aircraft systems, where the number of aircraft in the inventory, or the mission does not dictate that we have an in-house capability.

On Condition Maintenance:

As a result of experience in Vietnam, the US Army developed a concept called On Condition Maintenance (OCM). Under this concept an Analytical Condition Evaluation (ACE) is conducted on each aircraft and candidates go to the depot on a "worse first" basis.

We now average an overhaul once every 10 years at significant savings with no degradation in safety, reliability or maintainability.

Depot Supply:

The number of supply levels between the depot supply and the ultimate user should be evaluated. In Korea the pipeline is short and there is not reason to extend it.

All intermediate levels between the supplier/maintainer and the

ultimate user should be reduced or eliminated wherever practicable.

Aircraft Component Intensive Management System (ACIMS) and Aviation

Intensive Management Items (AIMI):

For high value items we have a reporting system known as ACIMS which reports each change in condition, location and status of a selected number of high value engines and components. The US Army has some 35 items in this system.

We also have the ΛTMI system wherein we intensively manage high value and critical items, the latter as they become critical. Items remain in the ΛTMI system only as long as they are critical.

Aircraft Systems Management:

The Troop Support and Aviation Materiel Readiness Command

(TSARCOM) manages each aircraft system by Mission-Design-Series (MDS)

as a total weapon system. We have found that total weapons system

management is the only way we can assure that airframe, engines,

avionics, armament, ground support equipment and any other material

support needed gets the attention each item deserves.

Aviation Logistics Management Techniques:

The following are four of the management techniques which are used by logistics managers to accomplish the aviation logistics management mission:

1) Integrated Logis! Acs Support is used by the Army to insure that all of the support requirements are fielded and effective in conjunction with a new or modified aircraft system.

- 2) The Material Fielding Plan is a precise document explaining the step by step actions to insure that logistics support of a new system is complete before delivery to the user.
- 3) The Flying Hour Program is a proposed annual schedule of flying hours needed for aviation organizations. It allows the support
 personnel to plan the logistics support needed by month.
- 4) The Worldwide Aviation Logistics Conference is an annual conference of aviation users, developers and maintainers. It helps to surface problems and propose solutions.

Rationalization, Standardization and Interoperability (RSI):

RSI is the cooperation among the US and her Allies to take advantage of standard logistic systems and hardware where possible and the development of interoperability among allied forces. US Army experience may assist Korea and prepare them for the larger growth in their aircraft fleet.

SUMMARY OF RECOMMENDATIONS PRESENTED TO GENERAL VESSEY

The following conclusions represent the highlights of the week of workshops and a starting point for ROKA to begin the process of upgrading their aviation programs.

- A. A ROKA or combined ROKA/US briefing team should be established to inform the major ROK Army commands of the latest aviation employment principles. This team could also present an overview of ROKA Aviation programs to staff officers to keep them abreast of the latest aviation policies and programs.
- B. The Aircrew Training Manual (ATM) is a newly adopted concept in individual aviator training. It facilitates quantifying the individual training requirements and standardization. A similar manual would provide the foundation to expand and improve an active aviation standardization program within ROKA. US Army Aviation has found the ATM to be a valuable guide for commanders, staff and individuals alike.
- C. The Forward Arming and Refueling Point (FARP) is a valuable concept that should be further explored by ROKA. It provides for savings in time and resources by providing "one stop" service to aricraft in support of combat operations.
- D. Consolidation of aviation crew chief and mechanics training at the ROKA Transportation School may prove advantageous. Besides the enhancement in standardization of training, it would also reduce the much needed training facilities requirements at the ROKA Aviation

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School.

- E. The ROKA Aviation Seminar succeeded in temporarily bridging the differences between the ROKA Aviation and Transportation Branches. Due to the nature of the ROK Army organization, top level emphasis will be necessary to bring these factions together on a permanent basis. The Aviation and Transportation branches must be able to work together to provide total system support for Army Aviation. One person is needed at the top to pull together the two sides of this problem.
- F. The use of civilian flight instructors is an area with promising future within ROKA. They have had much success using civilian personnel in aviation maintenance organizations. Because of a lack of qualified civilians, it would involve considerable selection and training of personnel but longer utilization would help to amortize the cost. Additionally, fewer military instructor pilots would be required for school training thus making them available for use in the aviation units.
- G. ROKA needs to closely examine it's present four (4) level aviation maintenance structure. A three (3) level or even two (2) level structure may be more in line with efficient and responsive aircraft maintenance and repair.
- H. As a part of OJT/OJE/INFUSION discussions, training of Air Traffic Control (ATC) personnel was emphasized. This has a direct bearing on the aviation programs for ROKA. Because of the complex training requirements and high English language skill leve! require,

this program needs immediate attention. The English language training may be the key step affecting the rate and quality of training. Individuals need to be identified for OJT/OJE and intensive language training begun.

- I. Training developments within the ROK Army is in the neophyte stages. The Instructional Systems Development Process (ISD) is needed to provide a guide to training developments. Each major branch within ROKA could benefit from having a department specifically for developing, coordinating and evaluating training. To insure continuity between the branches, ROK Army staff supervision would be desirable.
- J. Along with growth in training developments, publications must be provided for. A centralized publications agency could supervise, coordinate and monitor both internal and external (FMS) publication procurement for the training developers and units.
- K. The role of the Pathfinder is not fully exploited within ROKA. Pathfinders could be invaluable to ROK Army Ground units especially considering the lack of understanding and utilization of aviation assets by the supported units. They could provide the aviation expertise needed on the ground during night and limited visibility airmobile operations.
- L. Aviation standardization and accident prevention needs a great deal of attention within ROKA. Their present programs are understaffed and decentralized. In order to have an effective and active standardization and accident prevention program, ROKA must establish a workable program now that is capable of expanding with the increase in aircraft and pilots.

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M. With the increased role of aviation in the ROK Army, aviation and supported unit commanders must be capable of task organizing for combat. Commanders and staff officers at all levels need to know and practice tailoring the peacetime aviation organizations for effective application during combat. Aviation liaison officers are one important means to advise the supported unit on aviation utilization and task organization.

N. The Republic of Korea Army is at a starting point now with it's aviation. Within the next decade, aviation will undergo massive changes requiring much coordination. I recommend that ROKA conduct an Annual Aviation Program Review to identify progress and chart their objectives for the future. This review requires guidance and emphasis from the highest levels of ROKA and Combined Forces Command.

I. <u>Introduction</u>. The Republic of Korea Army Aviation Seminar was conducted on 9 - 14 April 1979, at Seoul, Republic of Korea, for the purpose of assisting the Korean Army in its transition to a modern aviation force. Senior Republic of Korea Army planners spent three days in intensive workshop sessions dealing with crucial issues in the development of an aviation force that is a major asset in a combined arms team. Major areas covered in the seminar included:

Management

Training

Logistics

- II. <u>Purpose</u>. The purpose of this after action report is two-fold. It will:
 - A. Describe the methodology used in preparing the seminar.
 - B. Present an overview of the seminar.

A copy of the original charter is found at Inclosure 1.

III. Methodology. On 23 August 1978 General Vessey, CG EUSA, requested DA assistance for the Republic of Korea in their transition to a modern aviation fleet. A "fact finding" team visited Korea during the period 30 October - 4 November 1978. Team members were MG Smith, CG, USAAVNC; COL Parker, USAAVNC; LTC Robinson, CAC; and MAJ(P) Walker, HQDA. Fact finding efforts consisted of a series of visits, tours, briefings and discussions throughout the ROKA aviation community. Command/agencies/activities visited included:

Directorate of ROKA Aviation

ROKA Transportation Corps
.

ROKA Aviation Supply Activities

1st ROKA Aviation Bde

ROKA Aviation School

Korea Air Lines Co-Production Facility for Hughes 500 M-D

Aviation Depot Base

Transportation School

Supply and Maintenance Activities

Aviation Plans and Operations Divisions

The team determined appropriate subjects for an aviation seminar and developed a work plan for submission to Eighth United States Army/ Joint United States Military Assistance Group - Korea and ROKA for approval. The plan proposed development of a one week conference/ workshop series. The seminar would commence with a general presentation which would consist of a tactical scenario, aviation employment concepts, management considerations, short and long range, and discussion. This presentation would be followed by a series of workshops addressing specific areas of management, training and logistics. The workshops would be tailored to the areas identified during the fact finding visit, as potential areas for sharing lessons learned. The workshops would consist of presentations by US/ROKA representatives, followed by a question and answer period/discussion. The discussion would focus on aiding the participants in identifying problems and in developing their solutions. The last half day of the week's effort would consist of a review summary wherein ROKA workshop leaders would discuss their conclusions and recommendations with selected ROK General Officer personnel.

The general presentation would be designed to portray concepts for employment of Army aviation as a member of the combined arms team in

a mid-high threat environment. Through the use of a scenario, terrain of the Korean Peninsula would be utilized to describe the unique contributions of ROKA aviation assets to battle. The scenario would focus on a stylized corps area to avoid encroaching on actual war plans. The threat to Army aviation and the tactical countermeasures necessary to defeat the threat would be analyzed in wargaming aviation in the various roles and missions of central battle. ROKA management considerations, including budgeting and programming would be presented to assure proper understanding of implications involved in expansion to a modern aviation fleet. Workshops would be grouped under one of three major headings, i.e., management, training and logistics. Management issues would address role, force structure, employment, life cycle, costs, and total systems integration. Training issues would address aviator, maintenance and tactical training, and safety, standardization, and training developments. The key logistics issues would include maintenance and supply support, quality control, depot maintenance and the potential for appropriate application of a three-level maintenance concept.

Outlines of the three workshops in each area are included at Inclosure 2.

TRADOC was tasked with preparing the seminar and subsequently passed the task to the USAAVNC. A work study group was formed on 8 January 1979 at Fort Rucker. Project officers were provided by the Transportation Center, the Troop Support and Aviation Materiel Readiness Command, Combined Arms Center (CAC, Fort Leavenworth, KS). ODCSLOG, DA and the Aviation Center. A personnel roster of the study group is included at Inclosure 3.

Preparation for the seminar closely followed the milestone chart found at Inclosure 4. This plan was found to be timely and adequate for mission accomplishment. This was due, to some extent, to using the format that was previously developed for the Army Aviation Employment Conference seminar. Issue papers were written, translated and distributed prior to the conference/seminar so that participants were familiar with the material to be covered. Agenda for the seminar is inclosed at Inclosure 5.

Summary of Seminar Activities. The advance party officer, CPT

Frank departed for Korea on 19 March 1979. His responsibilities in

Korea included insuring all materials shipped were on hand, trans
lations, set up of conference rooms and workshop areas and coordinating
all other administrative details.

The main body departed from various locations and gathered at Seattle on 3 April. The team arrived in Korea on 6 April and spent 6 and 7 April in preparation and rehearsal. COL Parker, who was attending required schooling the week of 2-6 April arrived in Korea on 9 April.

General Officer Presentation - 9 April 1979.

On 9 April 114 ROK and US Senior officers attended the General Officer presentation. A list of attendees is at Inclosure 6. A General Officer handout was provided to each attendee, Inclosure 7. Senior members at the Head Table were also provided a copy of the printed Issue Papers for each Workshop. Inclosure 8,9, and 10.

The General Office Presentation began with opening remarks by

General John W. Vessey, CINC and by General Chung, Seung Kwa, Chief

of Staff, ROKA, and by MG James C. Smith, Director of Training, DCSOPS,

Team Chief. After opening remarks the team presented a stylized scenario

(SECRET) presentation to illustrate the uses of Army Aviation in a

Korean war time tactical situation, (Inclosure 11).

Following the scenario, MG Smith presented a summary of Fundamentals of Army Aviation Employment which supplemented and illustrated the various points made in the scenario. A copy of that script is at Inclosure 12. Mr. Joseph Cribbins, Special Assistant to DCSLOG, followed MG Smith and presented an overview of important Aviation Logistics topics that would be presented during the Logistics Workshop. His script is at Inclosure 13. The General Officer Presentation concluded with questions from the audience and final remarks.

On Tuesday, 10 April, the second General Officer Presentation was given for a group of 67 ROK and US senior officers. A list of attendees is at Inclosure 14. The format was as given on 9 April.

Opening remarks were again made by General Vessey and by General Lew, Byong Hion, Deputy Commander, Combined Forces Command. Presentation

of the scenario and Aviation Employment Fundamentals and Logistics

Overview was as given on 9 April. Because of requests for discussions on Management, LTC Robinson presented a shortened 15 minute overview of the Management Workshop. A copy of his full script, from which the overview was extracted, is at Inclosure 15.

The General Officer Presentation concluded with questions from the audience and closing remarks.

During the period 11-13 April, team members conducted workshops in Management, Training and Logistics for officers of the ROK Army.

Workshops were held from 0800-1700 daily. The Management and Logistics Workshops were held in Conference Rooms in ROK Army Headquarters. The Training Workshop was held in ROKA Command Bunker, B-2. A list of attendees is at Inclosure 16. (Senior attendees name is given in English, all other ROK attendees not translated).

workshops were conducted using formal presentations and discussions of the subject matter. Each attendee was provided a copy of the issue papers for his workshop, Inclosure 8,9,10 and a workshop handout. Inclosures 17,18, and 19. Presentation and discussion followed the topic outline in the handout.

A complete copy of the scripts for workshop presentation and photo copy of view graphs aids, is at Inclosures 20 (Management), 21 (Training), and 22 (Logistics).

Format for each workshop included a snort format presentation with Korean translation. This was followed by a discussion among the workshop participants on the issue and finally conclusions

and/or recommendations were prepared.

Upon completion of the workshops on 13 April, Korean senior attendees worked with the Korean participants to prepare a summary of their conclusions and recommendations, to be given on 14 April. This summary would be presented to MC Kang, Young Sik, DCS for Operations, ROKA and all workshop attendees.

On 14 April the summary of workshop conclusions and recommendations was presented in the ROKA Headquarters Conference Room.

Conclusions and Recommendations were prepared on all topics. Those of particular significance were later highlighted by MG Smith in his exit briefing with Ceneral Vessey and are found at Inclosure 23.

On 16 April, MG smith conducted exit interviews with MG Harry A. Griffith, Chief, JUSMAG-K and General Vessey. The team departed the Republic of Korea on 16 April at 1430 hours.

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CHARTER

To organize and conduct, in conjunction with EUSA and JUSMAG-K, a 2 Day Senior Officer level US/ROKA Aviation Seminar and 3½ Day Workshop to be held in Korea during the March - April 1979 time frame. To form and send a Fact Finding Team of 3-4 HQDA/TRADOC members prior to the seminar to meet with selected US/ROKA representatives in Korea. The team will determine appropriate subjects for seminar discussion and will initiate planning for the seminar.

MANAGEMENT WORKSHOPS

1. WORKSHOP ONE:

- A. ROKA Aviation Program
 - 1. Combined Arms Team (Combat)

Presented by JUSMAG-K & ROKA

- 2. Logistics (CSS)
- B. Force Structure
 - 1. TOE FY 79 vs 82
 - 2. Equipment FY 79 vs 82
 - 3. Facilities FY 79 vs 82
- C. Total System Integration
 - 1. Aircraft Systems
 - 2. Training Program
 - 3. Personnel requirements
 - 4. L'gistics
 - (a) Maintenance
 - (b) Armament/Avionics/ASE
 - 5. Time Line, Approach

2. WORKSHOP TWO:

- A. Management Opportunities
 - 1. Look at reorganization of aviation and transportation schools to better utilize facilities and instructors
 - US Army Three level maintenance system vs current ROK Four level
 - 3. Explore contract maintenance at depot level (KAL 500 M-D)

4. Explore use of civilian flight instructors to free military pilots to fill flight standardization and unit instructor pilot positions.

3. WORKSHOP THREE:

- A. Special ROKA aviation problems
 - 1. Rapid growth
 - 2. Funding constraints
 - 3. Lateral Coordination
 - 4. Language training
 - Recruitment Considerations
 - (a) Ten (10 year lock-in for pilots
 - (b) Look at an early out Reserve/NG commitment for remaining time
 - (c) Increase flight pay benefits
 - (d) Warrant Officer/NCO flight program drawn from crew chief and maintenance personnel
 - 6. Role of Army aviation must be clearly understood by all ground) and aviation commanders (Company commander thru Corps and Army levels
 - 7. Tactical employment of 500 M-D and AH-lJ
 - 8. ROKA Conus base training
 - Implementation of seminar conclusions and recommendations

Presented by JUSMAG-K and 17th Group By U.S.

Presented by ROKA

TRAINING WORKSHOPS

7.	. w	OKKS	SHOP ONE:	
	A	. т	raining Developments (Instructional)	
			Systems Design)	
		1	. Aircrew training manual	DTD Expertise
		2	. Publications and aids	
		3	. Simulators - SFTS - Software	
2.	WO	ORKSI	HOP TWO:	
	Α.	A۱	viator training	
		1.	. Initial entry - Rotary Wing	
		2.	Qualification Tracks - 1.e., UH-1, 500 M-1), CH-47
		3.		
	В.	En	listed training	
		1.	Aircraft/Component Repair	
		2.	Armament	
		3.	Non-Aviation Personnel	
	C.	OJ'	T - Interoperability	
		1.	Cost	
		2.	Legal Aspects	
		3.	Standardization Criteria (OJT)	Presented by JUSMAG-K
3.	WOR	KSHC	OP THREE:	
	Λ.	Tac	tical training	
		1.	Night Night Hawk/NVG	
		2.	Instrument, tactical	

- 3. NOE Contour- Low Level
- 4. Mountain flying
- Aircraft Survivability Equipment training (IR; Radar Warning devices)
- 6. Training films showing Tactical Aviation
 Employment (i.e., Ansbach Test Film)
- B. Standardization/Evaluation and Safety
- C. Service Schools
 - Integration of Army aviation employment into service school instruction.
 - (a) Basic Course
 - (b) Advanced Course
 - (c) Command and General Staff Course
 - (d) War College

LOGISTICS WORKSHOPS

1. WORKSHOP ONE:

- A. Logistics Overview
- B. U.S. Army Three Level Concept
- C. Aircraft Maintenance Quality Control Program
- D. Aviation Ground Support Equipment
- E. Phased Maintenance
- F. Army Oil Analysis Program

2. WORKSHOP TWO

- A. Forward Arming and Refueling Point
- B. Training Development Philosophy
- C. Aviation Maintenance Officer and Repair Technician Training
- D. Aircraft Repair Supervisor and Technical Inspector Training
- E. Depot Maintenance Contract/Organic
- F. On Condition Maintenance/Analytic Condition Evaluation (OCM/ACE)
- G. Depot Supply
- H. Aviation Intensive Management Items (AIMI)/Aviation Component

Intensive Management System (ACIMS)

3. WORKSHOP THREE:

- A. Aircraft Systems Management
- B. Aviation Logistics Management Techniques
- C. Rationalization, Standardization, and Interoperability

INCLOSURE INCLOSURE 2 INCLOSURE 3

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PERSONNEL ROSTER AD HOC STUDY GROUP

Sp Asst to DCDR COL Ellis D. Parker

Korean Liaison LTC Lee, Jong Won

CDC - Ft. Leavenworth LTC Charles A. Robinson

LTC Dennis P. Vasey, DCSLOG

MAJ Thomas Bruns, Ft. Eustis GS-12 Wm. Arnett, TSARCOM GS-13 Paul Leible, TSARCOM GS-14 Paul McLaird, TSARCOM

MANAGEMENT

MAJ David Kummer, DTD CPT Daniel Frank, DOFT CPT Frank Green, DOAT

CPT Dale Sanders, DOFT TRAINING MAJ John Shields, DES CPT Thomas Wiktorek, DTD

ADMINISTRATION MAJ Thomas Watts, Mrs. Sharon Robertson Mrs. Alice Gordyn DOAT

MG James C. Smith and Mr. Joseph Cribbins were mentors during workshop presentations.

MILESTONES

JANUARY	•
9 - 19	- Review of literature and other information
11 - 31	- Work Group discussion
15	- Desk side briefing derived from butcher paper charts
19	- Rough Logistics Issue Drafts; Scenarios
20	- Items for US/ROKA presentation
23	- In Progress Review
30	- Final Seminar Drafts; Final Desk Side Briefing
(As Required)	- Conduct information briefing and review
FEBRUARY .	
13	- Progress Review; Draft Scripts for Seminar Leaders
23	- Full Dress Rehearsal
28	- Briefing packets to Korea for translation
хх	- ROKA officer visit (should be scheduled between 9 - 20 Feb to comment on proposed seminars and workgroups)
xx '.	- Media assistance (VGT correlation with issues)
xx	- Issues to JUSMAG-K for ROKA (after dress rehearsal)
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MARCH	• •
7	- Final decision on conference briefers. Agenda final.
12	- Changes incorporated in scripts
15	- Scripts to briefers not working with study group
15	 Task host representatives to establish location of conference. (Provide details of visual aids, audio requirements.)
24	 Action Officer make reconnaissance/coordination visit to review site. (During visit, insure visual aids set up IAW plan.
26	- Complete final travel arrangements for travel to Korea

APRIL

6 - Arrive Korea

7, 8 - Preparations for presentations/rehearsals

9, 10 - General Presentation

11, 12, 13 - Workshops

- Summary Review

16 - Departure from Korea

DAY 1 (9 April) EUSA CONFERENCE ROOM			
1300-1305	General Vessey's remarks		
1305-1320	MG Smith's remarks		
1320-1430	Scenario		
1430-1445	Break		
1445-1545	Comments by MG Smith and Mr. Cribbins		
1545-1600	Break		
1600-1700	General Presentation (Overview) by LTC Robinson/Mr. Cribbins		
1700-1715	Closing remarks - ROKA General Officer		
DAY 2 (10 Apri	1)		
1300-1715	Same as Day 1		
DAY 3 (11 April)			
	WORKSHOP #1 - GENERAL MANAGEMENT SUBJECT BLDG 1 ROKA HQ		
0800-0900	Combined Arms Team		
0900-1000	Combat Service Support (*ROKA/JUSMAG)		
1000-1100	TOE 79 versus 82		
1300-1400	Equipment & Facilities 79 versus 82		
1400-1700	Total Systems Integration		
1700-1800	Conclusion of the days discussion		

TRAINING WORKSHOPS ROKA BUNKER #2

WORKSHOP #1 - TRAINING DEVELOPMENTS

0800-0900 Training Developments (Instructional Systems Design) 0900-1000 Aircrew Training Manuals and ARTEPS 1000-1100 Publications and Aids 1300-1400 Simulators, SFTS, Software 1400-1700 OJT - Interoperability *JUSMAG (originally in Workshop 1 on the work plan) Conclusion of the days discussion 1700-1800 LOGISTICS WORKSHOPS BLDG 1 - ROKA HQ WORKSHOP #1 - MAINTENANCE - ARMAMENT AND AVIONICS 0800-0900 Introduction and Logistics Overview 0900-1000 US Army - Three Level Concept Aircraft Maintenance Quality Control Program 1300-1400 Aviation Ground Support Equipment 1400-1500 Phased Maintenance 1500-1600 Army Oil Analysis Program 1600~1700 Conclusion of days discussion 1700-1800 DAY 4 (12 April) WORKSHOP #2 - MANAGEMENT OPPORTUNITIES Look at Reorganization 0800-0900 0900-1000 Use of Civilian Flight Instructors Three Level versus Four Level Maintenance 1000-1100

Three Level versus Four Level Maintenance continued

1300-1430

1430-1530	Contract Maintenance at Depot
1530-1700	Air Space Management
1700-1800	Conclusion of the days discussion
	WORKSHOP #2 - AVIATOR TRAINING
0800-0900	Initial Entry - Rotary Wing
0900-1000	Qualification Tracks
1000-1100	Transition - Rotary Wing to Rotary Wing, etc
1300-1400	Enlisted Training - Crew Chief, Aircraft and Component Repair
1400-1500	Armament
1500-1600	Aviation Related Training for Non-Aviation Personnel (Air Assault and Pathfinder)
1600-1700	Conclusions of the days discussion
	WORKSHOP #2 - LOGISTICS
0800-0900	Forward Arming and Refueling Point
0900-1000	Training Development Philosophy
1000-1030	Aviation Maintenance Officer and Repair Technician Training
1030-1100	Aircraft Repair Supervisor and Technical Inspector Training
1300-1400	Depot Maintenance - Contract/Organic
1400-1500	On Condition Maintenance/Analytic Condition Evaluation (OCM/ACE)
1.500-1600	Depot Supply
1600-1700	Aviation Intensive Management Items (AIMI)/ Aviation Component Intensive Management System (ACIMS)
1700-1800	Conclusion of days discussion

DAY 5 (12 April)

WORKSHOP #3 - OTHER MANAGEMENT CONSIDERATIONS

Rapid Growth) '	
Funding Constraints) - * JUSMAG	
Language Training)	
Recruitment) – * ROKA	
Role of Aviation		

Lateral Coordination

WORKSHOP #3 - TACTICAL TRAINING

1300-1400 Safety 1400-1500 Standardization and Evaluation 1500-1600 Integration of Army Aviation Employment into Service School Instruction 1600-1700 Conclusion of days discussion WORKSHOP #3 - LOGISTICS MANAGEMENT 0800-0900 Aircraft Systems Management 0900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG, 1 - ROKA HQ. 0900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action Officer from each WS.		
1400-1500 Standardization and Evaluation 1500-1600 Integration of Army Aviation Employment into Service School Instruction 1600-1700 Conclusion of days discussion WORKSHOP #3 - LOGISTICS MANAGEMENT 0800-0900 Aircraft Systems Management 0900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. 0900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	0800-1100	Tactical Training
Integration of Army Aviation Employment into Service School Instruction 1600-1700 Conclusion of days discussion WORKSHOP #3 - LOGISTICS MANAGEMENT 0800-0900 Aircraft Systems Management 0900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA RQ. 0900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1300-1400	Safety
into Service School Instruction 1600-1700 Conclusion of days discussion WORKSHOP #3 - LOGISTICS MANAGEMENT 0800-0900 Aircraft Systems Management 0900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. 0900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1400-1500	Standardization and Evaluation
WORKSHOP #3 - LOGISTICS MANAGEMENT 0800-0900 Aircraft Systems Management 0900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. 0900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1500-1600	
O800-0900 Aircraft Systems Management O900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. O900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1600-1700	Conclusion of days discussion
0900-1030 Aviation Logistics Management Techniques 1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. 0900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action		WORKSHOP #3 - LOGISTICS MANAGEMENT
1030-1100 Rationalization, Standardization and Interoperability 1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. O900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	0800-0900	Aircraft Systems Management
1300-1700 JUSMAG, 17th Group and ROKA presentation 1700-1800 Conclusion of days discussion DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA RQ. O900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	0900-1030	Aviation Logistics Management Techniques
DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1030-1100	Rationalization, Standardization and Interoperability
DAY 6 (13 April) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ. O900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1300-1700	JUSMAG, 17th Group and ROKA presentation
O900-1100 Presentation of Workshop Findings to Selected Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	1700-1800	Conclusion of days discussion
Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action	DAY 6 (13 Apri	1) MAIN CONFERENCE ROOM BLDG. 1 - ROKA HQ.
	0900-1100	Personnel ROKA representatives; MG Kang, MG Choe, BG Kwohn, BG Park, & GO from logistics and Senior ROKA attendee from each WS & ROKA Action

 $[\]star$ - Topic to be presented by JUSMAG or ROKA, as indicated.

GENERAL OFFICER PRESENTATION LIST OF ATTENDEES 1330'9 APRIL 1979 ROOM 200 HQ EUSA

HEAD TABLE:

GENERAL JOHN W. VESSEY GENERAL CHUNG, SEUNG KWA LTG LEE, KUN YUNG LTG JIN, JONG CHAE

LTG YUN, HUNG JYONG LTG YOO, HAK SUNG

LTG KIM, YOUNG SUN LTG CHA, GYOO HYON

LTG SHIN, HYUN SUN MG PARK, CHAN KUNG

MG KANG, YOUNG SIK

OTHER PARTICIPANTS:

MG AHN, JONG HOON

MG JUNG, HYONG TAEK

MG KIM, HAN YONG

MG KIM, MUONG SOO

MG KIM, JONG KU

MG KIM, YUN HO

MG GRANGE, DAVID E.

MG KIM, KWANG DON

MG GRIFFITH, HARRY A.

MG RYOO, KUN HWAN

MG KINGSTON, ROBERT C.

MG KIM, JAE MYONG

MG SMITH, JAMES C.

MG KIM, YUNG SHIK

MG KANG, KYONG SOON

MG OH, CHUL

MG LEE, TAE SEUP

MG JUN, JAW HYUN

MG BAE, JUNG DO

MG RO, TE WOO

MG LEE, SUNG HOON

MG JUNG, HO YOUNG

MG MOON, UNG SHIK

MG KANG, YGON JONG

MG NO, MOO SIK

MG LEE, JUNG RANG

MG YUN, CHONG HWA

MG LEE, BUM CHUN

CINC, USFK

CHIEF OF STAFF, ROKA

CG, TROKA

CG, CAC

CG 2d, ORPS

SUPT, 3RD MA

CG, CAP CORPS

CG, 6TH CORPS

CG, ALC

DCSOPS

DCSLOG

CMDT, ARMY ADMIN SCHL

CMDT, ARMY WAR COLLEGE

DCS, PERSONNEL

CC, 3RD MDC

CMDT INF SCHL

CG,2D INF DIV

CG, ADA CMD

CHIEF, JUSMAG-K

CG, ARMY INTEL CMD

CofS, USFK

DEP I (ROK/US) CORPS CDR

DIR TNG DCSOPS, HQ DA

CG, 39th INF DIV

CG, 21ST INF DIV

CG, 3RD INF DIV

CHIEF, ORD

CG, 11TH INF DIV

CG, 26TH INF DIV

CG, 9TH INF DIV

CG, 32ND INF DIV

CG, 50TH INF DIV

CG, CAP MECH DIV CG, 35TH INF DIV

CG, 7TH INF DIV

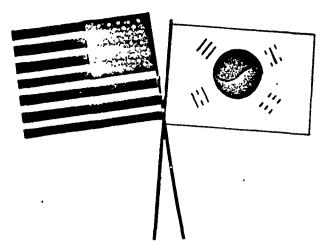
CHIEF, SIG

CG, 2D INF DIV

CG, 5TH INF DIV

BG KIN, HYUN GON BG GONG, YOON GUK BG PARK, BYUNG UK BG PENDLETON, ELMER D. BG GOODSON, ALLEN M. MR. CRIBBINS, JOSEPH BG SON, KIL NAM BG LEE, MYUNG KOO BG LEE, JONG MIN BG AHN, CHUL HO BG LEE, BYUNG KOO BG CHOI, BYUNG SOO BG KWONG, JOONG HONG BG YIM, HEE JIN BG BYUN, KYU SOO BG KIM, MYONG JAE BG SONG, JIN WON BG HQANG, WOONG BG LEE, SUNG KYU BG LESLIE, JAMES M. BG BUCKNER, DAVID L. COL BAEK, SEUNG UK COL LEE, MOON SOON COL SON, SEUNG YUL COL CHOI, HUN KOO COL CHOI, JAE SUK COL KIM, SUNG KWON COL YUN, BOK IL COL SUH, KAP BUM COL BLASTOS, CONSTANTINE J. COL LIVINGSTON, ALLEN C. COL NEWTON, GEORGE F. COL WOLLIVER, C.H. COL MacLAREN, B. M. CAPT KWON, SOON KACK LTC PRICE LTC RHEE LTC BYARS, HAROLD W.

CMDT, ADA SCHL CMDT, ORD SCHL DIR, ARTY & ARMOR CG, 19TH SPT CMD Cofs (ROK/US) CORPS GP SPCL ASST, DCSLOG CMDT, ARMOR SCHL DIR, MANPOWER MGT, DCSPER CHIEF, QM CHIEF, PROJECT COORD DIR, OPNS, DCSOPS DIR, P&P, DCSLOG DIR, AVN, DCSOPS CG, 88TH INF BDE CHIEF, ROKA HO DET, DSC CHIEF, CMC CG, 1ST AVN BDE CMDT, CML SCHL CG, 2ND ARMOR BDE ADC(S) 2D INF DIV ADC(M) 2D INF DIV CMDT, AVN SCHL CHIEF, ARMY AVN G-3, FROKA CDR, 61ST AVN GP CDR, AVN UNIT, 5TH CORPS CH, OPNS OF ARMY AVN CH, GND FORCES BR, CFC CDR, AVN UNITS, 2ND CORPS ROKA APPAIRS DIV JUSMAG-K JUSMAG-K AVN OFF. EUSA CDR, MILPERCEN-K JUSMAG-K ROKN I CORPS (ROK/US) GP I CORPS (ROK/US) GP JUSMAG-K



REPUBLIC OF KOREA



UNITED STATES



ARMY AVIATION SEMINAR

한 미함공 세미나

APRIL

1979

CONTENTS

내 용

	PAGE
A Message from Major General Smith 스미스 소장 환영사	
Purpose of the Seminar 세미나 의 목적	1
Semina Participants 세미나 참가 요원	2
Agenda 세미나 진행순서	4

WELCOME TO THE REPUBLIC OF KOREA AVIATION SEMINAR 여러분의 대한민국 항공 세미나의 참석을 환영합니다.

Our presentation is designed to be of interest and assistance 우리의 교수내용은 여러분의 관심과 지원을 위주로 설계 되었읍니다. to you.

Several months ago, it became appurent that Korean Army 수개월전, 한국 육군 항공은 대폭 증강 발전 중도에 있음이 Aviation was in the midst of great expansion. For many years, 바려졌옵니다. 다년간, 미 육군

US Army Aviation has been passing through a similar experience. 항공도 이와 유사한 경험을 겪어 왔었읍니다.

Many mistakes were made as we developed and expanded. We hope 우리가 개발되고 보강되는 동안, 많은 과실도 있었습니다. 우리는 to share the lessons learned from that period of growth to 아마도 여러분의 증강계획을 보다 쉽게 할지도모를, 우리의 성장기 possibly make your development program easier. We present these 에서 얻은 고훈을 같이 나느려고 합니다. 우리는 이들 고훈을 lessons learned as information only, and encourage you to use

그저 참고자료도서 제공하는것이며, 여러분이 이들 자료을 한국실정에 what is applicable to your Korean situation.

맞도록 적용하실것을 괜장하는 바입니다.

The team we brought to Korea is composed of US Army aviation 이번에 내한한 우리팀은 미육군 항공계의 전문가들도 구성되어 professionals. They, and those who assisted them in rreparing 있읍니다. 이 세미나를 준비하는데 지원을 베푸신 여러분은 this seminar, share with me the greatest of respect and 저와 더불어 대한민국을 위한 확대의 존경과 찬사를 누리게 admiration for the Republic of Korea. All of us thank you for 될것이 옵니다. 우리 모두가 이 세미나 기획를

the opportunity to present our seminar. 베풀어 주신 여러분에게 감사를 드립니다.

> JAMES C. SMITH Major General, GS Director of Training

PURPOSE

목 적

This seminar has been developed to share with 본 세미나는, 미 육군 항공의 성장기간층 얻은 교훈을 you lessons learned during the growth of US Army 여러분과 함기계 나누고저 발전시킨 것인니다. aviation. We will begin with the presentation of a 우선 전술 씨나리오 부터 소개해 드리기토 battle scenario. It will show how aviation support 이 건술 씨나리오를 통해서 항공 지원이 하겠읍니다. can benefit the tactical commander. On the 3rd, 4th 전술 지휘관에게 어떤 도움을 줄수 있는가를 알수가 있을 것입니다. and 5th days, we will present workshops on Manage-그리고, 관리, 교육 및 군수관계에 대하여서는 제 3일, 4일 및 ment, Training, and Logistics. Each workshop will 5일 차에 걸쳐 각 연구집회에서 도의 될것입니다. 각 연구집회 present ideas and experiences for coordination. By 에서는 상호의 견해와 경험을 다부게 됩니다. 또한 항공의 제반 sharing problems, mistakes, and successes, we hope 문제점, 오튜 및 성공 사례들을 서로 연구 검토함으로써, 대한민국 to assist you in the growth of ROKA aviation.

육군 항공의 성장에 도움이 될수 있기를 바라마지 않읍니다.

SEMINAR PARTICIPANTS 세미나 참가 요원

SENIOR MEMBERS 수 서 요 원

ROK ARMY 한국축

US ARMY 미국축

MG KANG, YEUNG SIK 강영식 소장 MG SO, JUN YEUL 소문영 소장

MG JAMES C. SMITH 스미스 소장 MR. JOSEPH P. CRIBBINS 프리벤스 씨 COL ELLIS PARKER

BG KWOHN, JOONG HONG 권중홍 소장

파카 대령

OTHER MEMBERS OF THE US ARMY

<u>TEAM</u> 기타 미국측 요원

LTC CHARLES A. ROBINSON, JR. 라빈슨 중령

COMMAND & GENERAL 미참모대학 소속 STAFF SCHOOL, FT.

LEAVENWORTH, KS.

LTC DENNIS P. VASEY 뻐시 충령

OFFICE, DEPUTY CHIEF 작전 참모실 소속 OF STAFF, OPERATIONS,

WASHINGTON, DC

MAJ THOMAS E. BRUNS 브런스 소란

US ARMY TRANSPORTATION 미육군 수송사 및 수송학교 소속 CENTER & SCHOOL

FT. EUSTIS, VA.

MAJ DAVID W. KUMMER 크미 소령

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US ARMY AVIATION 미우군 항공사 소속 CENTER, FT. RUCKER,AL. MAJ PAUL C. MELLEN 메 린 소령

MAJ THOMAS A. WATTS 왓즈 소령

CPT DANIEL T. FRANK 트린크 대위 US ARMY AVIATION 미육군 항공사 소속 CENTER, FT. RUCKER,AL.

US ARMY AVIATION 미육군 항공사 소속 CENTER, FT. RUCKER, AL.

US ARMY AVIATION 미육군 항공사 소속 CENTER, FT. RUCKER,AL.

AGENDA 진행순서

I Presentation for all attendees (Day 1 or 2) 참석자 전원 해당 (2일중 하무를 선택 참석요)

A. Introduction (20 Minutes) 소개 (20분)

General Vessey, Commander US 주한 미군 사령관, 베시 대장 Forces-Korea

MG Smith 스미스 소장

- B. Tactical Scenario (1 Hour) 전술 씨나리오 (1시간) MAJ Mellen 메린 소장
- C. Break
- D. Comments (1 Hour) 강조사항 (1시간) MG Smith/Mr. Cribbins 스미스 소장/크리빈스 씨
- E. Break 휴식
- F. General Presentation (Overview) (1 Hour) 일반적인 사항 (중점 요약) (1시간) LTC Robinson 라빈슨 중령

II Workshops: (Day 3,4, and 5) (0800-1800) 연구 집획(제3,4,5일 재) (오건 8시부터 오후 6시 7가지)

A. Management MAJ Kummer 라비 미소령

B. Training MAJ Watts 훈련 왓츠 소령 CPT Wiktorek 워터텍 대위

C. Logistics MAJ Bruns 군수 브런스 소령

III Workshop Findings (Day 6) (0900-1100) 연구집회 토의결과 (제6일 째) (오전 9시 부터 11시 7가지)

ARMY AVIATION FUNDAMENTALS 육군 항공의 기본원칙

1. GENERAL
7) SL

This handout is designed to give a general background on Army 본 책 가는 미 육군 항공의 기본 원칙과 이의 이용에 대한
Aviation fundamentals and employment. These fundamentals are based on 일반적인 배경을 설명조저 하는데 있다. 따라서 이러한 기본원칙들은
US Army aviation, but attempt to reflect Korean needs. The purpose in 미 육군 항공에 그 근거를 둔것이나, 한국측도 이용할수있게 반영하고
providing them is as a base upon which ROKA may build for the future.
있다. 이를 소개하는 독적은, 장차 한국측이 이용할수있는 기초를
2. GENERAL MISSION OF ARMY AVIATION

육군 항공의 일반적 임무

The mission of Army Aviation, in US doctrine, is to augment the 미국 교리에 의하면 육군항공의 임무는, 육군으로 하여금 지상에서 capability of the Army to conduct prompt and sustained combat operations 신속하고 지속적인 전투작전을 수행할수 있도록 이의 능력을 보강하는 on land. Aviation assets are available at all levels and provide the 데 있다. 항공기는 모든 제대에서 활용할수 있으며, 지상부대 지위관 ground commander with responsive aerial mobility. This mobility results 에게 효과적인 공중 기동력을 제공해 준다. 이러한 기동력은, from the innerent speed of the aircraft, the ability to overfly 항공기가 보유하고 있는 속도, 장애물 횡단 비행, 최전방에서 그리고 obstacles, and to operate well forward and from unprepared areas. 돌발 지역에서 작전 항수 있는 능력을 준다.

Aviation elements can perform a wide variety of missions which cover 항공대는, 전투와 전투지원 전반을 망나하는 광범위한 각종 임무를 the entire breadth of combat and combat support. The aviation unit 수행할수 있다. 항공대는 지상부대 provides advice to the ground commander on the capabilities,

지휘관에게, 가용 항공대의 능력, 한계 및 자원에 관한 조언을

limitations, and resources of available aviation elements. 제공 한다.

PART ONE. ARMY AVIATION FUNDAMENTALS 제1부. 육군 항공의 기본 원 칭

The fundamentals of aviation, upon which all planning for combat 모든 전투 계획 수립에 다른 항공의 기본 원칙은 employment is based, are: 다음과 같다:

- The ability to continue the mission day or night, and in adverse 주야간 및 악천후를 불문하고, 임무를 계속 수행할수 있는 능력. weather conditions.
 - The responsiveness and availability of assets. 항공기 외 즉각 대응 및 가용
- The ability to be integrated into the ground commander's task 지상군 지원을 위해 지상 부디 지휘관의 전투 편성에 통합 organization in support of ground forces. 가능.
 - The flexibility of employment roles that is possible. 수행가능한 임무 부여의 융통성.

All Times, Adverse Weather: Aviation units train for operations 항시, 그리고 악천후 지원: 항공대는 야간 작전 근련을 during darkness. This training prepares pilots to operate using only 받는다. 이 훈련은 조종사로 하여금 자연 조명만을 이용, natural illumination or with night vision aid devices. Units operating 또는 야간 시각 보조기로 작전 할수 있도록 대비로로 해들다. 주야간 on a continuous basis, day and night, must be carefully employed to insure 계속 작전을 하게되는 항공대는, 승무원이 직접한 휴식을 취할수 있도록 that crew members receive adequate rest. Extended employment of the 잘 면성 되어야 한다. 야간 작전에 항공대를 연장 이용시는, 사고율 unit for night operations must be carefully monitored to prevent an 증가 방지를 위해 각별한 확인 감독의 필요하다.

increase in accidents. Combat operations in all but the most severe
가장 극심한 악천후를 제외하고는 모든
weather conditions is possible through training, and the use of
기상조건하에서도, 훈련과 건술계기 사용으로 전투 작전이 가능
Tactical Instrument procedures. With proper navigational equipments
하다. 적절한 항법 장비를 지상에 비치
on the ground, aviation assets should be able to fly to forward positions
함으로써, 혹심한 번개, 혹한과 폭설, 안개 및 폭우, 시속 50놋트
in most weather, except extremes of violent thunderstorms, freezing and
이상의 강풍과 같은 경우를 제외하고는 항공기는 대부분의 기상
precipitation and snow, fog and heavy rain conditions, and high winds
조건하에서 전방 지역에 작전 비행 할수 있어야 한다.
above 50 knots.

Responsiveness: Because of the increased rate of activity which is 즉간 대응: 항공 자산의 이동성이 증가됨에 따라

possible using aviation assets, the ground commander can plan for rapid 지상부대 지휘관은 즉각 대응할수 있는 계획을 수립할수 있다.

response to his needs. This responsiveness takes two forms. First,
이, 즉간 대응 형태로서는 두가지 형태가 있다.

assets are quickly available because they are not bound to roads.
첫 째, 항공기는 노상 이동하는것이 아니기 때문에 신속 지원이

Second, aircraft can be rapidly diverted from one mission to another as 가능하며, 둘째, 전투시 야전 부대 지휘관은 상황변경에

the needs of the commander change in battle.

따라 신속히 임무 전환 을 시킬수 있다.

In Support of Ground Forces: Of all fundamentals this is the most 지상 부대 지원: 육군 항공의 기본원칙중에서 이것이 important! Aviation assets must be task organized in support of front 가장 중요하다. 육군 항공기는 전방 지상부대를 지원할수 있도록 line ground elements. That support must be an integrated part of the 편성되어야 한다. 이러한 지원은 지상부대 지휘관의 확력 및

ground commander's scheme for fire and maneuver. The purpose of task 기동 계획의 일부로 조합된 있어야 한다. 항공대 임무 편성의 organizing aviation is to provide the responsiveness and immediate 목적은, 지삿부대 지휘관에게 항공기가 신속하고도 죽긴 가용합수 availability that the ground commander must have to influence the battle. 있도록 하는데 있으며, 이는 전투를 작우 하는데 긴요한 것이다. Task organizing is the opposite of centralized control and insures the 임무 편성은, 중앙 통제 방식의 반대가 되며, 지상부대 지휘관에게 ground commander that he will have assets on hand when he needs them. 필요시 즉시 사용할수 있도록 항공기를 보유해 준다. It allows full exploitation of the advantages of aviation, and allows 이와 같이 함으로써 항공의 장점을 획대한으로 개발 활용할수 있으며, the commander to orchestrate his efforts. This integration of all 또 지상부대 지휘관으로 하여금 그의 노력을 조절 조확 시킬수 있도록 elements of combat power on the battlefield develops a mutual trust, 해준다. 이러한 각종 전투력의 요인들을 전투에다 전부 집중시킴으로서 confidence and respect among commanders which is the key to an 지위관 사이에 상호 신퇴와 존경을 야기 시키며, 이는 바로 효과적인 effective Combined Arms Team.

제병 연합부대에 필수 불가결한 것이다.

Flexibility: Of all the tools placed in the hands of the ground 지상부대 지휘관이 보유하고 있는 각종 장비중에서도 육 꽃 성: commander, aviation assets have the greatest flexibility. Aircraft can 항공기가 가장 큰 융통성을 보유하고 있다. 항공기는 move from passive to active and a utility role to one of attack with a 수세도 누터 적극적으도, 일반임무또부터 신속히 공격형으로 전환할수가 speed of transformation not found elsewhere. No other single system 있으며, 이는 다른 장비에서는 찿아 불수가 없다. 현대전에서 여하한 in modern warfare can perform the many roles that an aircraft is 단일 무기체계도, 항공기 만큼 다양한 역할은 같수 있는것이 없으며, capable of, nor can they move from role to role and place to place 한입무에서 다른 임두토, 한곳에서 다른굿으로 또 항공기 만큼 so rapidly.

신속히 옮길수 있는것은없다.

PART TWO. ARMY AVIATION ROLES 계2부. 육군 항공의 역합

Army aviation assets can be assigned many different missions. These 육군 왕공기는 각층 임무끝 부여 받이 수행할수 있니. 디시

can be as a part of the offense, defense, or retrograde operations. 말해서, 공세, 방어 또는 후퇴 작전의 일부쫉 말아 수행할수 있다.

Regardless of which tactical situation, and by what name the mission is 어하한 전술 상항이건, 임무의 명칭이 무엇이건간에, 이는 전부 다음

called, all of those missions fall within one of five roles. No matter 5가지 역할중의 하나 이다. 그리고

the size or type of aircraft, and its location with relation to the 항공기의 규모나 종류 및 전투지역과의 위치에 관계없이, 아래 Battle Arca, it will be doing one or more of the following: 역할중 하나를 실시 하게될 것이다:

- Trans, tation of Personnel. 인원 구송
- Transportation of Supplies and Equipment. 보급품 및 장비 수송
- Delivery of Aerial Fire Support. 공중 확력지원 제공
- Gathering of Intelligence, Performance of Reconnaissance, or 정보 수집, 수색정찰, 또는 적 확기의 제안 Surpression of Enemy Weapons.
 - Providing the means for Command, Control and Communication. 지위, 통제 및 통신 수단 제공

The ability to perform these roles is further enhanced by the 이러한 역할을 수행할수있는 능력은, 어머가지의 임무를 동시에 수행하고 ability to perform several of them simultaneously and to do so day 주야간 과 기상의 유미, 볼리에 관계없이 수행할수 있게 함으로서 and night, good weather or bad. This flexibility in coordination with 가일층 증강 된다. 이러한 용통성을 항공기의 임무 변성에

the task organization of aviation assets gives the ground force 잘 활용한다면, 지상부대 지휘관은 아래 사항도 수행 할수 commander the ability to do the following: 있다:

- Use aircraft to command and control his forces. 항공기를 부대 지휘 및 충제에 이용 가능
- Displaces forces in a timely manner. 적시에 부대를 이동 가능
- Prepare an effective anti-armor defense. 효과적인 때 기간 방어 수립 가능
- Move reserves at the correct time. 정확한 시간에 예비 부대를 이동 가능
- Perform reconnaissance of his area and the enemy. 관활지역과 적에 대한 정찰 실시 가능
- Support himself logistically. 자체 군수지원 가능
- Do all of these things both day and night. 이상 열거한것을 전부 주야간 공히 실시 가능
- Do all of these with a high rate of activity. 이상 열거한것을 드두 신속하게 수행 가능

PART THREE: ARMY AIRSPACE PRINCIPLES 제3부: 육군 영공의 원칙

The system for coordination of airspace over the combat zone 전투지역 공역에 대한 이용 협조 체제는, 제반 전투작전을 maximizes all combat operations, prevents mutual interference, and 극대화 시켜주며, 상호 방해 가능성을 뻐제해 주며, 각종 무기체계를 provides maximum flexibility consistent with safety to all services 보유하고, 항공기를 사용하는 각군의 안전을 위해 최대한외 having weapons systems and using airspace. The extent of airspace 용동성을 제공해 준 다. 지상부대 지위관이 required by the ground commander to employ organic aircraft and 면제상외 항공기와 확기를 사용하는데 필요한 공역 규모는

weapons is dictated by the situation and will vary from time to time. 상황에 따라서 결정되며, 변동 된다.

The ground commander habitually requires freedom of use of the airspace 지상부대 지휘관은 전투지역 공역에 대한 자유로운 사용을 항상 immediately over the battle area. 요구하고 있다.

To accomplish this principle in the division area of responsibility, 이와 같은 원칙을 사단 책임 지역내에서 실천하기 위해서는,

maximum use is made of standard procedures and employment techniques to 필요한 표준절차와 항공기 사용기술을 최대한 활용하므로써 공역

avoid conflict between the various airspace users. Unless there are 이용자간의 상호 마찰을 피해야 한다. 불가피한 전술상의

overriding tactical considerations, the operation of Army aircraft 사유가 없는한, 전투지역내에서의 육군 항공기의 작전은 어떤 제한도

within the combat zone must be free of constraints. Only in the most 받아서는 않된다. 특수한 상황

severe situation should positive control by any Service be introduced. 하에서만, 관계 병과에 의한 육군 항공기에 대한 정밀한 통제가 허용

No attempt is made to maintain position and flight path information on 되어야 한다. 어떤 항공 교통관제 기구를 이용, 모든 개개 항공기의 all single aircraft by an air traffic control element.

위치와 비행경로에 관한 자료 파악을 기도해서는 않된다.

In the division, the primary airspace coordination element is the 사단 의, 공역 협조 기관은 공중 공간 통제반 (ACE)이다.

Airspace Control Element (ACE). It is the focal point for division 이 기구는, 사단 지역 공역 통제의초점이 되며, 주토 사단지역

airspace coordination and is concerned primarily with the preplanned 공역 외기계획 사용을 담당 한다.

use of division airspace. The ACE functions under the supervision of 공중 공간 통제반은,사단 작선참모의 감독을

the G3 and coordinates use of division airspace by Army eviation, air 받으며, 육군 항공, 방공, 야전 포병 및 공군기에 의한 사단지역 defense, field artillery, and Air Force aircraft. The ACE coordinates 공역의 사용을 조절한다. 또는 공중 공간 information on prohibited or restricted air defense areas and other 통제반은 비행금지 되었거나 비행 제한 조치된 방공지역과, 야전부대 restrictions imposed on air traffic by the commander or higher 지휘관 혹은 상급 사명부에서 정한 항공 교통에 대한 기타 째한 headquarters. The division commander is the primary control authority 조치에 관한 정보를 협조한다. 사단장은 사단 지역에 대한 통제권을 for the division and exercises control by determining roles for the use 가지고 있으며, 지상 전투작전 수행을 위해 필요한 사단지역 공역의 of airspace over the division required for conduct of ground combat 용도를 결정 함으로써 이외 통제권을 행사 한다.

Direct control over individual airspace users during combat
전투 작전 기간중 개개 공역 이용자에 대한 직접적인 몽제는

operations will be exercised by the maneuver unit commander. He
기동부대 지위관이 실시 한다. 기농부대

decides which support system has priority and coordinates the use
지위관은 공역 이용 우선순위를 결정하며, 포병, 공격할기 및

of artillery, attack helicopters, and the tactical air force supporting
전술 공군의 사용을 협조한다.

him. For multiple aircraft flights, airmobile operations, or large 다수의 항공기 비행, 공중기동 작전, 혹은 대규모 재보급
resupply operations, routes and altitudes will be coordinated in the 작전을 실시할 때는, 사단 전술 작전본부 (TOC)에 위지한 관계
ACE acting together with other elements in the division Tactical 기관과 함 7계 활동하는 ACE 에서 항복와 고도를 접조하여 하며,
Operations Center (TOC); and necessary corridors will be established 필요한 획장을 결정하여, 포병, 방공 및 항공 작전간의 충돋을 to preclude conflict among artillery, air defense, and aviation operations. 배제 해야 한다.

PART FOUR. ARMY AVIATION AIRCRAFT 제4부. 육군 항공대 항공기
(Characteristics and Organizations) 특징 과 편성

- UH-1 Classified as a utility helicopter. It is capable of troop 다목적 텔기로 분류되며, 전투병력 11명의 공수, 기체 lift of 11 combat troops, internal or external cargo movement, 내외부를 이용한 화물의 수송, 공중 정찰, 지휘 및 통제, aerial reconnaissance, command and control, and limited 및 약 간만 개조하면 제한된 공중 두기 보급이 가능 aerial weapons delivery with modifications. The UH-1 is 하다.

 UH-1 found in almost all types of aviation organizations 헬기의, 이러한 다양한 능력으로 인해 거이 어떤 항공대 because of its versatile capability.

 편성에서도 볼수 있다.
- Primarily an aerial weapons delivery platform. Armament AH-1G/J 주로 공중 무기발사 수단으로서, 이의 무장으로서는, can consist of 7.62mm, 20mm or 30mm machine guns; 2.75 7.62 미리, 20미리 또는 30미리 기관총, 2.75인치 inch rockets; 40mm grenade launcher; or TOW missiles. 토켓포, 40미리 수류탄 발사기, 또는 토우 미사임음 Armament can be used to best defeat the enemy. The 장착한다. 무장은 적을 가장 효과적으로 손멸하는데 AH-1G/J can also perform reconnaissance but not as 사용할수 있다』 또한 AH-1G/J 힐기는 정찰 임무도 수행 economically as observation aircraft. The AH-1 is 할수 있으나, 관측기로서는 비경제적이다. AH-1 콅기는 normally in Air Cav or Attack helicopter units. It can 보통 항공기동대나 공격 쳁기 부대에 뻐치뇐다.

be a part of utility aircraft companies to provide 다목적 항공기 중대의 일부로써, 공중 기동 제대의 공중 airmobile assault firepower. 화려옥 제공 한다.

- The 500 M-D is primarily an observation and aerial 500 M-D 500 M-D는 주토 관측과 공중 무기 발사용 항공기 weapons delivery aircraft. It can also function to 이는 또한 제한된 범위 이다. a limited extent as a cargo or troop lift aircraft. 내에서 화물이나 병력의 공수용 항공기로도 활용핥수 있다. The 500 M-D can be found in any aviation organization 500 M-D항공기는 그 형태에 따라서는 어떤 항공대 depending on its equipment configuration. 에도 배치될수 있다.
- CH-47C The CH-47C is a cargo helicopter capable of transporting CH-47C헬기는 화물수송용 헬기도써 병력과 장비를 troops and equipment. As a troop carrier it can lift 수송할수 있다. 병력 수송시는, 정상적인 작전 33 soldiers under normal operations. As a cargo aircraft 상황하에서는 병력 33명을 공수할수 있으며, 확물 수송 it can move internal and external loads weighing up to 시는, 26,000 마운드 무게 가기의 화물을 기체 내외부에 26,000 lbs. It is normally in support helicopter units 식재 수송할수 있다. 익는 통상 군단 이상급 부대의 at corps level and above.

지원 헬기 부대에 뻐치된다.

OH-23 The OH-23 is a small observation helicopter. It is OH-23 은 소형 관측용 헬기이며, 관측, 지뜻 및 capable of observation, command and control, messenger 통제, 선령 및 제한된 승객 수송 임두를 수렁 할수

and limited passenger missions. It is normally located 있다. 동상 군단급이하 at corps level and below and used for VIP, observation, 부대에 배지되어, 귀빈, 관측 혹은 전령 임무 등에 or messenger missions. 이용 된다.

- O-1 The O-1 is a light fixed wing aircraft. It can be used O-1 온 경 고정익 항공기트써, 정찰, 전령 또는 포병 for reconnaissance, messenger or aerial artillery adjustment 확력의 공중 수정 임무등에 익용할수 있다.
 missions. It is normally in fixed wing organizations 이는 통상 고정익 항공대이 배치되어 군단급 in support of corps level and below.
 이하 부대를 지원 한다.
- U-6 The U-6 is a light fixed wing aircraft capable of
 U-6 은 경 고정의 항공기로써, 상비와 인권을
 moving equipment and personnel. It can be used for
 이동할수 있다. 정잘 임무에도 사용
 reconnaissance but is normally in general support roles
 할수 있으나 동상 군단급 이상 부대에서 일반적인 지원
 at corps level and above.
 임무물 말아 수행 한다.

ARMY AIRCRAFT CHARACTERISTICS 육군 항공기의 특징

n-6	105		1330	vo	MA	1/2
0-1	105	2+50	135	г	NA	1/2
0н-23	80	1+45		7	NA	1/2
CH-47C	140	3+15	26,200	32	16,000	-
500 H-D	160	2+30	1,640	2	2,000	1/2/3
AH-1J	130	2+30	3,100	NA	NA	m
AH-1G	120	2+30	3,900	NA	NA	ო
UH-1	NORMAL CRUISE 정상비행 90	SPEED 'S SP CRUISE A CRUISE A CRUISE A CP 2+15	ENDURANCE *USEFUL 7 & 적 책 등 LOAD (*) 은 트) (POUNDS)	*TROOP SEATS 科식 个 11	MAXIMUM # H 7 N N S EXTERNAL 4 W 6,000	10AD ROLES 의 中个 1/2

きょいる AIRCRAFT ROLES PASSENGERS, FUEL, CARGO, ARMAMENT. 승객, 연호, 확물, 무장이 포함된다. *USEFUL LOAD INCLUDES: 가용 목격량에는,

AERIAL 약기식 WEAPONS 공중수송 DELIVEPY 마 OBSERVATION 관측 일반기원 GENERAL SUPPORT

7

We nece to cot off B522 and Jank on arm: aviation INCLOSURES 8 - 10

COPIES OF ISSUE PAPERS, FOR THE MANAGEMENT,
TRAINING AND LOGISTICS WORKSHOPS ARE SEPARATE
FROM THIS BOOK.

7111-1

SCENARIO SYNOPSIS

The scenario, which was classified secret, presented a stylized tactical situation within the Republic of Korea. The situation portrayed an offensive into the Republic by the North Korean Army and Air Forces, and how that situation was dealt with by ROK forces. This vehicle allowed explanation of the uses of Army Aviation assets and the tactical advantages they offer.

Methodology used to develop the scenario was:

First, that it not duplicate any actual ROK or Combined Forces Contingency plan.

Second, that it be plausible, realistic, and present a possible threat situation.

Third, that it was based on current DOD analysis of characteristics of current ROK and North Korean capabilities.

Fourth, that it display our confidence in the capability and determination of the ROK forces.

Fifth, that it be based on current ROK doctrine and Korean $% \left(1\right) =\left(1\right) +\left(1\right)$

Sixth, that it present current US doctrine on employment of Army Aviation.

The presentation described a possible threat situation which was defeated in a short violent conflict. The script contains 64 pages using 250 35 mm slide illustrations and runs approximately 1 hour and 10 minutes with simultaneous Korean language translation.

AVIATION EMPLOYMENT FUNDAMENTALS

PRESENTED BY MG JAMES C. SMITH

IN THE SCENERIO YOU HAVE SEEN EXAMPLES OF AVIATION

EMPLOYMENT CONCEPTS, THAT, WHEN PROPERLY APPLIED, WILL HELP

THE GROUND FORCES WIN WHILE OUTNUMBERED. THESE CONCEPTS

OF EMPLOYMENT LEAD TO INCREASED CAPABILITIES FOR THE

COMMANDER TO COPE WITH THE FLOW OF THE BATTLE. WE SAY THAT

THE MISSION OF ARMY AVIATION IS TO AUGMENT THE CAPABILITY OF

THE ARMY TO CONDUCT PROMPT AND SUSTAINED COMBAT OPERATIONS

ON LAND. AVIATION ASSETS ARE AVAILABLE AT ALL LEVELS OF

COMMAND AND PROVIDE THE GROUND COMMANDER WITH A UNIQUIELY

RESPONSIVE ASSET. THE HELICOPTER HAS ADDED A NEW DIMENSION

TO BATTLEFIELD MOBILITY. HELICOPTERS PROVIDE THE RAPID.

RESPONSE ENABLING THE COMMANDER TO CONCENTRATE HIS COMBAT

POWER ON THE BATTLEFIELD AT THE DECISIVE TIME AND PLACE. HE WILL GAIN A DIFFERENTIAL OF MOVEMENT, USUALLY GREATER THAN 4 1/2 TIMES FASTER FOR AERIAL LATERAL DISPLACEMENT OF FORCES, WHEN COMPARED TO GROUND MOVEMENT. AVIATION UNITS TRAIN FOR OPERATIONS DURING DARKNESS. THIS TRAINING PREPARES PILOTS TO OPERATE USING ONLY NATURAL ILLUMINATION OR WITH NIGHT VISION AID DEVICES. AT NIGHT THIS ADVANTAGE IN AERIAL MOBILITY IS EVEN GREATER. COMMAND AND CONTROL OF COMBAT UNITS IS GREATLY ENHANCED WITH THE CAPABILITY TO VISIT AND COORDINATE WITH SUBORDINATE, ADJACENT AND HIGHER UNITS. THE INTEGRATION OF AERIAL FIREPOWER WITH THAT OF THE GROUND FORCES IN THE ANTIARMOR ROLE IS SIGNIFICANT IN THAT THE COMMANDER HAS THE ABILITY TO QUICKLY COUNTER AND CONTAIN ENEMY ARMOR THRUSTS, WHILE SUPPORTING ANTI-TANK TEAMS AND

ARMORED FORCES DISPLACE TO DEFENSIVE POSITIONS. THE MISSIONS OF RECONNAISSANCE AND SECURITY ARE PARTICULARLY ADAPTABLE TO ARMY AVIATION. ARMY AIRCPAFT HAVE THE ABILITY TO GATHER QUANTITIES OF THIELY INFORMATION ABOUT THE ENEMY, WEATHER, AND TERRAIN AND PROVIDE RESPONSIVENESS EQUALLED BY NO OTHER FORCE DIRECTLY AVAILABLE TO THE GROUND COMMANDER. MOBILE WARFARE REQUIRES FLEXABILITY IN RESPONDING TO RAPIDLY CHANGING SITUATIONS ON THE BATTLEFIELD. OF ALL THE TOOLS PLACED IN THE HANDS OF THE GROUND COMMANDER, AVIATION HAS THE GREATEST FLEXIBILITY. AIRCRAFT CAN MOVE FROM PASSIVE TO ACTIVE AND FROM A UTILITY ROLE TO ONE OF ATTACK WITH A SPEED OF TRANSFORMATION NOT FOUND ELSEWHERE. NO OTHER SINGLE SYSTEM IN MODERN MANUARE CAN PERFORM THE MANY ROLES

THAT AN AIRCRAFT IS CAPABLE OF NOR CAN ANY OTHER MOVE FROM ROLE TO ROLE OR PLACE TO PLACE AS RAPIDLY. TIMELY LOGISTICAL SUPPORT WILL OFTEN BE THE LIFELINE FOR THE SUCCESS OF TACTICAL OPERATION AND AERIAL RESUPPLY WILL PROVIDE THAT FLEXIBILITY. THE HELICOPTER CAN ASSIST THE GROUND COMMANDER IN RAPID COMBAT SERVICE SUPPORT. THIS IS OF GREAT IMPORTANCE, AS OUR MODERN EQUIPMENT CONSUMES VAST QUANTITIES OF SUPPLIES. THEREFORE, A HIGHLY RESPONSIVE AND FLEXIBLE LOGISTICS SYSTEM IS NECESSARY. ONE MEDIUM LIFT HELICOPTER, FOR EXAMPLE, CAN CARRY ALMOST TWO TIMES THE LOAD OF A FIVE TON TRUCK, AND DO IT FIVE TIMES AS FAST. THE AIRCRAFT IS NOT AFFECTED BY ROAD CONDITIONS AND BY USING EXTERNAL LOADS CAN MAKE ALMOST INSTANTANEOUS DELIVERIES AT THE POINT OF NEED. AROUND THE

CLOCK OPERATIONS IMPLIES STAYING POWER, AND THE CAPACITY FOR AVIATION UNITS TO PROVIDE DAY AND NIGHT, ALL WEATHER SUPPORT TO THE GROUND FORCES. COMBAT OPERATIONS IN ALL BUT THE MOST SEVERE WEATHER CONDITIONS ARE POSSIBLE THROUGH TRAINING AND THE USE OF TACTICAL INSTRUMENT PROCEDURES. WITH PROPER NAVIGATION EQUIPMENT ON THE GROUND, AVIATION ASSETS SHOULD BE ABLE TO FLY TO FORWARD POSITIONS IN MOST WEATHER EXCEPT EXTREMES.

IN THE SCENARIO YOU HAVE SEEN EXAMPLES OF AVIATION EMPLOYMENT CONCEPTS, THAT, WHEN PROPERLY APPLIED, WILL HELP THE GROUND FORCES WIN WHILE OUTNUMBERED. THESE CONCEPTS OF EMPLOYMENT LEAD TO INCREASED CAPABILITIES FOR THE COMMANDER TO COPE WITH THE FLOW OF THE BATTLE. WE SAY THAT THE MISSION OF ARMY AVIATION IS TO AUGMENT THE CAPABILITY OF THE ARMY TO CONDUCT PROMPT AND SUSTAINED COMBAT OPERATIONS ON LAND. AVIATION ASSETS ARE AVAILABLE AT LEVELS OF COMMAND TO PROVIDE THE GROUND COMMANDER WITH A UNIQUELY RESPONSIVE ASSET. HELICOPTER HAS ADDED A NEW DIMENSION TO A COMMANDER'S BATTLEFIELD MOBILITY. HELICOPTER FORCES PROVIDE THE RAPID RESPONSE REQUIRED BY A COMMANDER TO CONCENTRATE COMBAT POWER ON THE BATTLEFIELD AT THE DECISIVE TIME AND PLACE. HE WILL GAIN A DIFFERENTIAL OF MOVEMENT, USUALLY GREATER THAN 4 1/2

TIMES FASTER FOR AERIAL LATERAL DISPLACEMENT OF FORCES, WHEN COMPARED TO GROUND MOVEMENT. AVIATION UNITS MUST TRAIN FOR OPERATIONS DURING DARKNESS AND BAD WEATHER. THIS TRAINING PREPARES PILOTS TO OPERATE THROUGHOUT THE COMBAT PERIOD DAY OR NIGHT USING APPROPRIATE AIRCRAFT INSTRUMENTS, NATURAL ILLUMINATION OR WITH NIGHT VISION AID DEVICES. AT NIGHT THE ADVANTAGE IN AERIAL MOBILITY IS EVEN GREATER. COMMAND AND CONTROL OF COMBAT UNITS IS GREATLY ENHANCED WITH THE CAPABILITY TO VISIT AND COORDINATE WITH SUBORDINATE, ADJACENT AND HIGHER UNITS. THIS IS ESPECIALLY SIGNIFICANT IN KOREA WHERE GROUND TRAVEL IS TIME CONSUMING AND WHERE LINE-OF-SIGHT COMMUNICATIONS CAN BE DIFFICULT IN A FLUID COMBAT SITUATION. THE INTEGRATION OF AERIAL FIREPOWER WITH THAT OF THE GROUND FORCES IN THE

ANTIARMOR ROLE IS CRITICAL TO THE COMMANDER WHO MUST HAVE THE ABILITY TO QUICKLY COUNTER AND CONTAIN ENEMY ARMOR THRUSTS, WHILE SUPPORTING ANTI-TANK TEAMS AND ARMORED FORCES DISPLACE TO DEFENSIVE POSITIONS. IN KOREA TERRAIN, THE MISSIONS OF RECONNAISSANCE AND SECURITY ARE PARTICULARLY ADAPTABLE TO ARMY AVIATION. ARMY AVIATION PERSONNEL MUST HAVE THE ABILITY TO GATHER QUANTITIES OF TIMELY INFORMATION ABOUT THE ENEMY, WEATHER, AND TERRAIN AND PROVIDE RESPONSIVENESS EQUALLED BY NO OTHER FORCE DIRECTLY AVAILABLE TO THE GROUND COMMANDER. MOBILE WARFARE REQUIRES FLEXIBILITY IN RESPONDING TO RAPIDLY CHANGING SITUATIONS ON THE BATTLEFIELD. OF ALL THE TOOLS PLACED IN THE HANDS OF THE GROUND COMMANDER, AVIATION HAS THE GREATEST FLEXIBILITY, AIRCRAFT CAN MOVE FROM PASSIVE TO ACTIVE AND FROM A UTILITY ROLE TO ONE OF ATTACK WITH A SPEED

OF TRANSFORMATION NOT FOUND ELSEWHERE. NO OTHER SINGLE SYSTEM IN MODERN WARFARE CAN PERFORM THE MANY ROLES THAT A HELICOPTER IS CAPABLE OF NOR CAN ANY OTHER MOVE FROM ROLE TO ROLE OR PLACE TO PLACE AS RAPIDLY. TIMELY LOGISTICAL SUPPORT WILL OFTEN BE THE LIFELINE FOR THE SUCCESS OF TACTICAL OPERATION AND AERIAL RESUPPLY WILL PROVIDE THAT FLEXIBILITY. THE HELICOPTER CAN ASSIST THE GROUND COMMANDER IN RAPID COMBAT SERVICE SUPPORT. THIS IS OF GREAT IMPORTANCE, AS OUR MODERN EQUIPMENT CONSUMES VAST QUANTITIES OF SUPPLIES. THEREFORE, A HIGHLY RESPONSIVE AND FLEXIBLE LOGISTICS SYSTEM IS NECESSARY. ONE MEDIUM LIFT HELICOPTER, FOR EXAMPLE, CAN CARRY ALMOST TWO TIMES THE LOAD OF A FIVE TON TRUCK, AND DO IT FIVE TIMES AS FAST. THE AIRCRAFT IS NOT AFFECTED BY ROAD CONDITIONS AND BY USING EXTERNAL LOADS CAN MAKE ALMOST INSTANTANEOUS DELIVERIES AT THE POINT OF NEED.

AROUND THE CLOCK OPERATIONS IMPLIES STAYING POWER, AND THE
CAPACITY FOR AVIATION UNITS TO PROVIDE DAY AND NIGHT, ALL
WEATHER SUPPORT TO THE GROUND FORCES. COMBAT OPERATIONS IN
ALL BUT THE MOST SEVERE WEATHER CONDITIONS ARE POSSIBLE
THROUGH TRAINING AND THE USE OF TACTICAL INSTRUMENT PROCEDURES.
WITH PROPER NAVIGATION EQUIPMENT ON THE GROUND, AVIATION ASSETS
SHOULD BE ABLE TO FLY TO FORWARD POSITIONS IN MOST WEATHER
EXCEPT EXTREMES.

THROUGHOUT MY REMARKS I HAVE IMPLIED POSSIBILITIES WHICH

BECOME CAPABILITIES ONLY WHEN THE MACHINES ARE IN THE HANDS OF

WELL TRAINED, HIGHLY MOTIVATED PERSONNEL. IT IS THAT TRAINING

AND RELATED MANAGEMENT PRACTICES WHICH WILL DICTATE THE DEGREE

OF SUCCESS YOU ACHIEVE IN YOUR AVIATION PROGRAM.

MR. CRIBBINS WILL NOW DISCUSS THOSE FUNDAMENTALS OF AVIATION LOGISTICS.

AVIATION LOGISTICS

GENTLEMEN:

CHART 1 (AVIATION LOGISTICS)

THE PURPOSE OF MY BRIEFING IS TO GIVE YOU THE

FUNDAMENTALS OF HOW WE IN THE US ARMY APPROACH AVIATION

LOGISTICS. WE CONSIDER THE WORD APPROACH MOST IMPORTANT

SINCE THIS WORD MEANS TO TAKE PRELIMINARY AND FOLLOW-ON

STEPS TOWARD A PARTICULAR PURPOSE. THE PURPOSE HERE IS TO

HELP YOU PROVIDE AN EFFECTIVE, RESPONSIVE, EFFICIENT AND

ECONOMICAL LOGISTIC SUPPORT FOR YOUR ARMY AVIATION

PROGRAM.

CHART 2 FIRST AND FOREMOST YOU MUST ADDRESS THE REPUBLIC

OF KOREA'S REQUIREMENT FOR ARMY AVIATION. YOU HAVE SEEN .

THE SCENARIO AND YOU KNOW WHAT YOUR PLANS ARE. NOW IT IS

OF ARMY FORCES NEEDED -- SPECIFICALLY, THAT MIX OF
GROUND AND ARMY AVIATION FORCES NEEDED TO MEET YOUR
REQUIREMENTS.

CHART 3 AS YOU LOOK AT THE REQUIREMENT AND ESTABLISH THE

BALANCE OF ARMY FORCES NEEDED YOU MUST ALSO CONSIDER YOUR

CAPABILITIES AND LIMITATIONS ESPECIALLY THOSE LIMITATIONS

OVER WHICH YOU HAVE NO CONTROL. FOR EXAMPLE, IF YOU ARE

RESTRICTED (AS WE ARE) ON THE NUMBER OF DOLLARS OR HWAN

NEEDED.

NOW, IN VERY BRIEF FORM I AM GOING TO OUTLINE THE US ARMY AVIATION LOGISTIC CONCEPTS. WE HAVE NOT ARRIVED AT THESE CONCEPTS EASILY. WE SPENT MORE THAN 10 YEARS IN :

VIETNAM ENGAGED IN COMBAT SUPPORTED BY HELICOPTERS. FOR

MANY OF OUR LOGISTIC CONCEPTS, POLICIES AND PROCEDURES WE HAVE LEARNED THE HARD WAY. FOR EXAMPLE, IN THE PAST WE HAVE USED A PHILOSOPHY WHICH SAYS THAT THE US ARMY EQUIPS MEN. THIS WAS TRUE FOR THE INFANTRY SOLDIER WITH HIS GUN WHICH WAS THE BASIC WEAPON THAT WOULD DEFEAT THE ENEMY. CONVERSELY, THE US AIR FORCE PHILOSOPHY SAYS THAT IT MANS EQUIPMENT. GENTLEMEN, AS I LOOK AT THE BATTLEFIELD OF TODAY AND THAT FORESEEN FOR TOMORROW, THE INFANTRY SOLDIER NOW REQUIRES MUCH SUPPORTING EQUIPMENT IN THE FORM OF TANKS, ARMORED PERSONNEL CARRIERS, ARTILLERY, MISSILES AND AVIATION IN SUBSTANCE, FOR ARMY AVIATION (YOURS OR OURS) WE LIKE THE AIR FORCE ARE MANNING EQUIPMENT. THAT WE MUST RECOGNIZE AND BE PREPARED TO SUPPORT.

BACK THROUGH THE DEPOT LEVEL, OR FROM THE BOTTOM UP. THIS

IS MOST IMPORTANT. TOO OFTEN WE HAVE FOUND THAT LOGISTIC

SYSTEMS HAVE BEEN PREPARED FROM THE TOP DOWN WITHOUT

FULL RECOGNITION THAT THE USER IN THE FIELD IS THE

ULTIMATE CUSTOMER. THE ONLY REASON FOR HAVING ALL THE

ECHELONS AND LEVELS ABOVE THE USER IS TO SUPPORT THE

USER IN THE FIELD. LET ME EMPHASIZE THAT YOUR LOGISTIC

SYSTEMS SHOULD FULL RECOGNIZE THIS FACT.

AVIATION LOGISTIC CONCEPTS, POLICIES, AND PROCEDURES

BASED ON REQUIREMENTS, CAPABILITIES AND LIMITATIONS OF THE

USER AND YOU SHOULD CONSTRUCT YOUR AVIATION LOGISTIC

STRUCTURE, MANNING AND SUPPORT FROM THE BOTTOM UP.

HERE IS A CHART WHICH SHOWS HOW WE DEVELOPED USER

1000年1100年110日第

LEVEL MAINTENANCE FOR ARMY AVIATION IN VIETNAM. WHEN WE

DEPLOYED TO VIETNAM, WE HAD FOUR LEVELS OF MAINTENANCE.

WE QUICKLY FOUND OUT THAT ORGANIZATIONAL MAINTENANCE FOR

ARMY AVIATION WAS INADEQUATE. THE MAINTAINERS AT THAT

LEVEL WERE RESPONSIBLE FOR SERVICING AIRCRAFT AND LITTLE

ELSE. AS WE ENGAGED IN COMBAT WE FOUND IT ESSENTIAL TO

INCORPORATE FROM 60 TO 70% OF WHAT FORMERLY HAD BEEN

DIRECT SUPPORT MAINTENANCE INTO THE OPERATIONAL UNITS --

THIS WE NOW CALL AVIATION UNIT MAINTENANCE (AVUM). HERE

IS A CHART SHOWING BEFORE AND AFTER IN THE 1ST CAV DIV

IT HAD 420 HELICOPTERS. THE REORGANIZATION REQUIRED

175 PEOPLE. LOOK AT THE INCREASE IN OPERATIONAL READINESS

OF ABOUT 25% AND THE INCREASE IN FLYING HOURS OF ABOUT 25 HOURS PER AIRCRAFT PER MONTH. YOU CAN READILY SEE THAT THIS CONCEPT HAS A REAL PAYOFF.

NEXT, I AM GOING TO COVER FIELD MAINTENANCE AT THE INTERMEDIATE LEVEL.

CHART 5 - THREE LEVELS

THROUGH IN VIETNAM. THE TOP LINE SHOWS OUR FOUR LEVEL

STRUCTURE WHEN WE DEPLOYED TO VIETNAM. THE BOTTOM LINE

SHOWS CURRENT STRUCTURE. AS I HAVE JUST INDICATED, WE MOVED

60-70% OF DIRECT SUPPORT INTO OPERATIONAL UNITS. AS WE

DID THAT WE ALSO FOUND THAT SOME 75-80% OF GENERAL SUPPORT

MAINTENANCE WHICH WE BELIEVED COULD BE DONE IN THE GENERAL

SUPPORT UNITS IN THE FIELD WAS BEYOND THEIR CAPABILITY IN COMBAT. THEREFORE, THIS WORK WHICH WAS PRIMARILY ENGINE AND COMPONENT REPAIR AND OVERHAUL, WAS OF NECESSITY SENT BACK TO CONUS DEPOTS. LOOKING AT THE REAL WORLD WITH A LARGE PART OF DIRECT SUPPORT MOVING FORWARD INTO UNITS AND GENERAL SUPPORT MOVING BACK INTO DEPOTS, WE ASKED OURSELVES THE QUESTION - DO WE REALLY NEED FOUR LEVELS OF MAINTENANCE. THE ANSWER CAME BACK AS NO. US ARMY AVIATION CURRENTLY HAS JUST THREE LEVELS OF MAINTENANCE. TWO LEVELS ARE IN THE FIELD; THE AVUM AT UNIT LEVEL AND AVIM AT INTERMEDIATE LEVEL REPLACING THE OLD DIRECT. SUPPORT/GENERAL SUPPORT LEVELS OF MAINTENANCE, BACKED BY A DEPOT LEVEL COMPOSED OF ORGANIC AND CONTRACT MAINTENANCE. CHART 6 HERE IS DEPOT LEVEL. I HAVE PICTURED AN UMBRELL'A

THAT COVERS ALL FIELD SUPPLY AND MAINTENANCE SINCE THESE

ARE THE PRINCIPAL TASKS OF OUR DEPOTS IN SUPPORT OF ARMY

AVIATION. HAVING CONS RUCTED AVUM BASED ON USER REQUIREMENTS

AND AVIM BASED ON THE USER AND AVUM BACKUP, THEN THE DEPOT

SHOULD ALSO BE CONSTRUCTED BASED ON USER AND INTERMEDIATE

REQUIREMENTS. THERE ARE SOME QUESTIONS YOU SHOULD ASK

YOURSELVES AS TO WHAT CONSTITUTES THE DEPOT REQUIREMENTS IN

KOREA. FOR EXAMPLE,

- DO YOU REALLY NEED AN INTERMEDIATE LEVEL IN THIS
 COUNTRY?
- SHOULD ALL YOUR DEPOT LEVEL MAINTENANCE BE ORGANIC

 (WHAT WE CALL IN-HOUSE) OR SHOULD SOME OF IT BE CONTRACT?

- IF YOU HAVE AN INTERMEDIATE LEVEL, IS IT NECESSARY

 TO GO THROUGH THAT LEVEL TO SUPPLY THE ULTIMATE USER?
- CAN YOU CONSTRUCT DEPOT LEVEL SUPPORT SO THAT IT IS

 TRULY A TOTAL AVIATION WEAPON SYSTEM SUPPORT? THIS MEANS

 PROVIDING A SINGLE SOURCE FOR AIRFRAMES, ENGINES, AVIONICS,

 ARMAMENT GROUND SUPPORT EQUIPMENT, AND ALL OTHER THINGS

 REQUIRED TO KEEP YOUR AIRCRAFT FULLY MISSION CAPABLE.

WE WILL BE ADDRESSING THESE QUESTIONS AND MANY MORE
IN OUR WORKSHOP.

THE BOTTOM LINE OF OUR AVIATION LOGISTIC CONCEPT IS THIS.

YOU MUST PREPARE FOR WAR IN PEACETIME BECAUSE YOU WON'T

HAVE TIME TO TRANSITION FROM PEACE TO WAR. WE IN THE US

ARMY RECOGNIZE THIS. LOOKING AT THE PROXIMITY OF YOUR.

POTENTIAL ENEMT IT IS MANY TIMES MORE IMPORTANT TO YOU.

REDUCE OR ELIMINATE ALL INTERMEDIATE LEVELS BETWEEN

THE PRODUCER/SUPPLIER/MAINTAINER AND THE ULTIMATE USER

WHEREVER PRACTICABLE. WE USE INTERMEDIATE LEVELS ONLY

BECAUSE OF TIME AND DISTANCE FACTORS. SIMILAR TIME/

DISTANCE PROBLEMS DO NOT EXIST HERE. YOU NEED TO TAKE

A CRITICAL LOOK AT THIS MATTER.

PROVIDE A TOTAL LOGISTIC SUPPORT FOR YOUR ARMY AVIATION

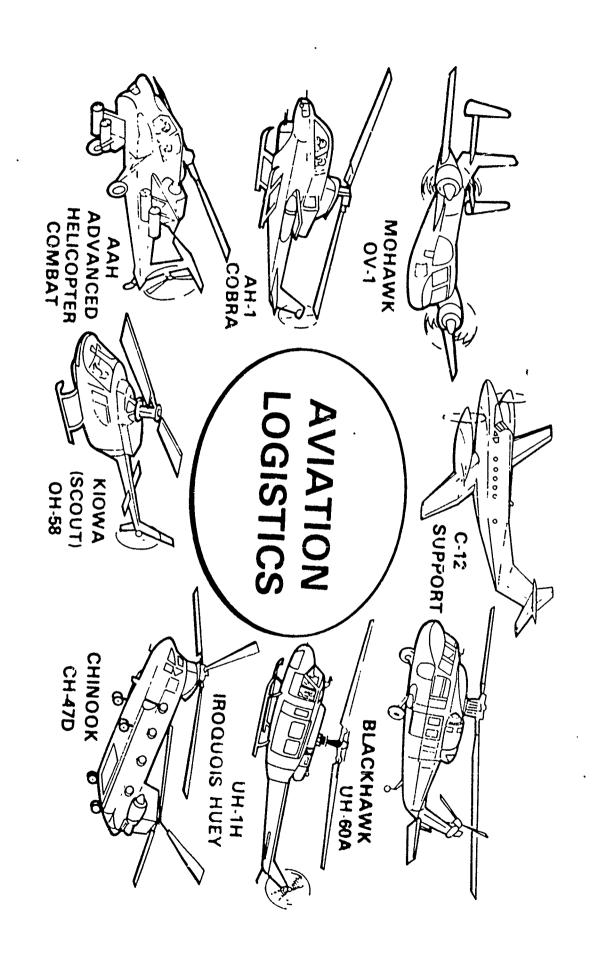
PROGRAM. TO REPEAT, YOU ARE MANNING EQUIPMENT. THIS

EQUIPMENT IS BECOMING EVER MORE SOPHISTICATED. IT INVOLVES

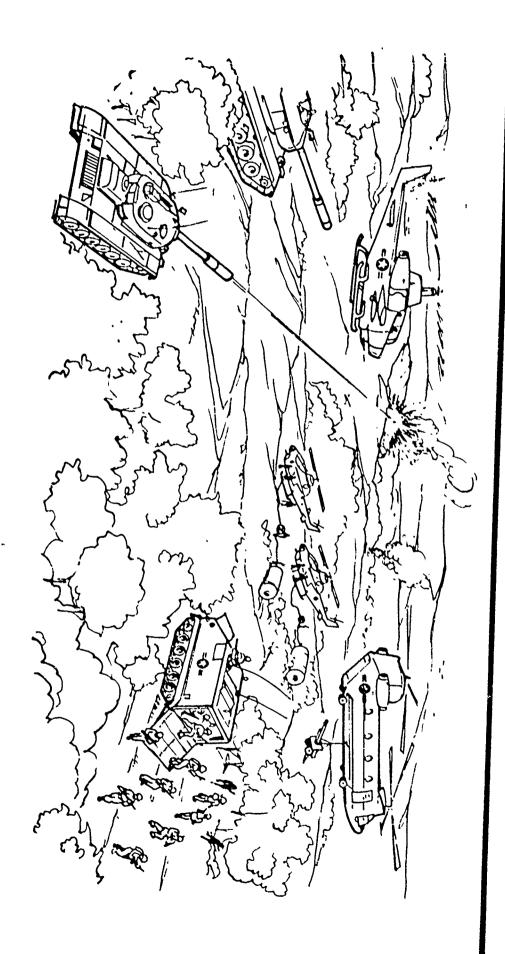
CONSUMPTION OF LARGE QUANTITIES OF POL, AMMUNITION AND THE SUPPLIES. WITHOUT THESE SUPPLIES AND THIS TOTAL

WEAPONS SYSTEM SUPPORT YOU WILL NEVER HAVE AN EFFECTIVE

FIGHTING FORCE.

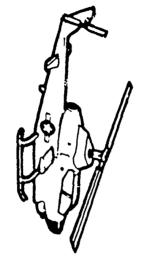


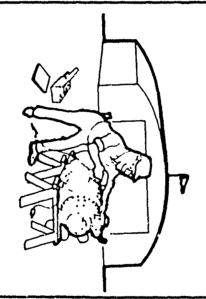
AVIATION LOGISTICS



AVIATION LOGISTICS

CAPABILITIES





LIMITATIONS

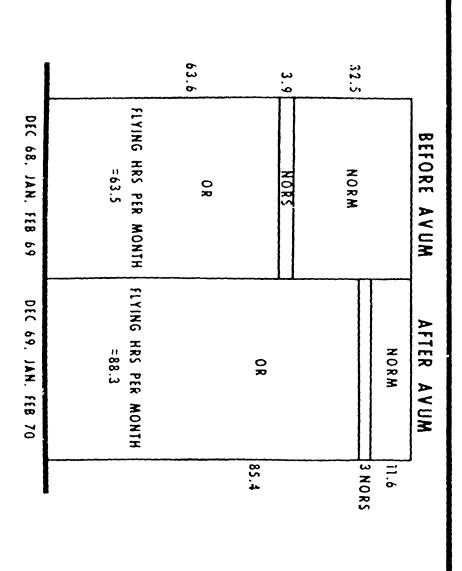


AFFORDABILITY

AVIATION UNIT MAINTENANCE (MS+)

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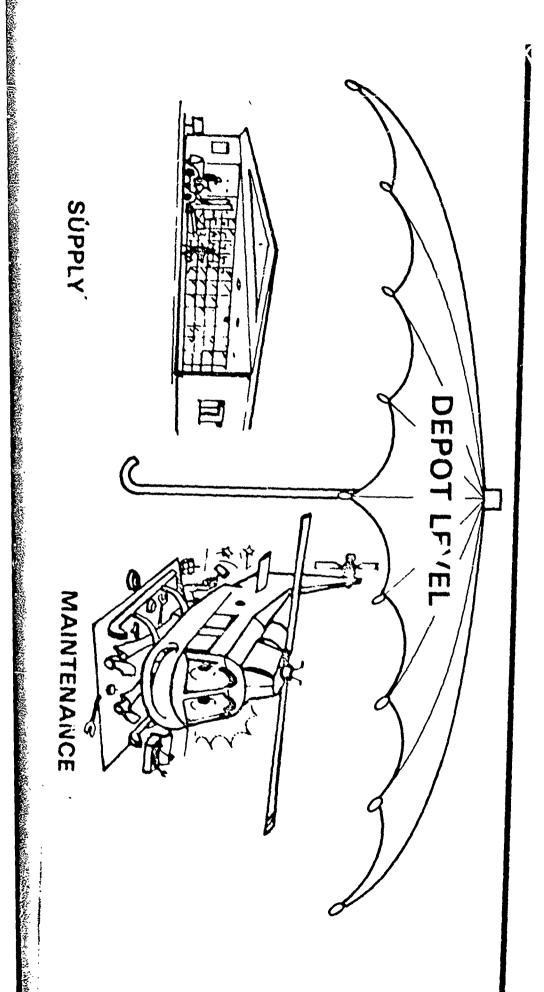
IST CAV DIVISION OPERATIONAL READINESS



DS/GS AMALGAMATION

ORG AVUM AVUM STANDARD MAINTENANCE STRUCTURE NEW STRUCTURE REAL WORLD AVIM DS/GS รล์ S ... DEPOT DEPOT 0EP0T

AVIATION LOGISTICS



AVIATION LOGISTICS

operations of the control of the con

- 1. PREPARE FOR COMBAT-NO TIME TO TRANSITION
- REDUCE INTERMEDIATE LEVELS BETWEEN PRODUCER/DEPOT AND USER.
- 3. PROVIDE TOTAL LOGISTIC SUPPORT
- CLASS I RATIONS
- CLASS III POL
- CLASS V AMMO
- CLASS IX PARTS

GENERAL OFFICER PRESENTATION L1ST OF ATTENDEES 1330 10 APRIL 1979 ROOM 200 HQ EUSA

HEAD TABLE:

GENERAL JOHN W. VESSEY, JR.
GENERAL LEW, BYONG HION
LTG KIM, HAK WON
LTG BAEK, SUK JOO
LTG LEE, HUI SUNG
LTG YOON, SUNG MIN
LTG HWANG, YUNG SI
LTG CHOI, YOUNG KOO
MG CHUN, SUNG GAK
MG CHOI, YOUNG SHIK
MG CHUNG, BYUNG JOO
MG CHUNG, SANG MAN

CG, 3RD CORPS
CG, 1ST CORPS
CG, 5TH CORPS
CG, CSC
DCS PLANS/COMPT
CG, SWC

CG, 2D MDC

CINC, USFK

CG, KOREA

SUPT, KMA

DEP CINC, CFC

DEPUTY CofS (ROKA)

OTHER PARTICIPANTS:

LTG ROSENCRANS, EVAN W. MG CHAE, HANG SUK MG HYANG, EUI CHUL MG KIM, BONG, SOO MG SOH, JOON YOL MG PARK, JAE JONG MG NA, DONG WON MG SHIM, YOO SUN MG KIM, CHOON BAE MG LEE, CHUL HUI 'MG CHUNG, SOO AHM MG LEE, TAE YOUNG MG AHN, JAE SUK MG CHUNG, JIN KWON MG KIM, YOUNG KYU MG SMITH, JAMES C. MG CHOI, KAP SUK MG PRILLAMAN, RICHARD L. MG KIM, KI SUK MG JUN, JOO SHIK MG KIM, UNG YOUL MG HAN, SANG WOO MG KIM, YONG JIN MG OH, CHA BOK

MG LEE, KI BAEK

MG CHOI, YON SIK

DCG, USFK/EUSA DCSTNG DCSINTEL CG.5TH MDC ASST DCSOPS CMDT ARMY ARTY SCHL CG, ECSC DCofS, CFC CG, 28TH INF DIV CG, 20TH INF DIV CHIEF, TC CG, 38TH INF DIV CG, 12TH INF DIV CG, 27TH INF DIV CG, 25TH INF DIV DIR, TNG, ODCSOPS CG, 8TH INF DIV ASST CofS J-3, USFK CG, 31ST INF DIV CG, 33RD INF DIV CG, 36TH INF DIV CHIEF, ENG CG,37TH INF DIV CG, 6TH INF DIV CG, 15TH INF DIV CG, 1ST INF DIV

BG TONER, FRANCIS J. BG CHANG, YEUNG KUN BG HUH, DONG RYUNG BG LEE, MIN YOUNG BG HAHAM, SEI YOUNG BG KIM, SUNG JIN BG PARK, SUNG WOOK BG KANG, HO WON BG CHANG, CHANG HO BG LIM, YOUNG HOON BG SHIN, SANG CHUL BG KWON, JOONG HONC BG AHN, PIL JOON BG KIM, HEE OH BG HAN, IN SOO BG KIM, SUK BG LEE, BYUNG KI MR CRIBBINS, JOSEPH COL (P) KIM, CHAE SU COL CHOI, SANG JIN COL LIM, BYUNG CHUL COL MOON, YOUNG CHUL COL HAN, KYUNG SOO COL BAE, CHANG YOUL COL LEE, SUK COL FARKER, ELLIS D. COL BLASTOS, CONSTANTINE J. LTC BYARS, HAROLD W. MAJ ROOT, DAVID K.

ASST CofS J-4, USFK CMDT, ENG SCHL CMDT, SIG SCHL DEPUTY ASST CofS, C-3,CFC DIR, P/P DCSOPS CG, TC CMD DIR, MAINT/SUPP DCSLOG CG, WUL SAN ASC DIR, UNIT TNG, DCSTNG CMDT, TC SCHL DIR, ORGAN DCSOPS DIR, AVN/ROKA DIR, TNG DCSTNG DIR, PLANS/SEC, DCSINTEL CG, 1ST ARMORED BDE CMDT, QM SCHL DIR, FID SP ASST TO DCSLOG CHIEF, OPNS DIV, CFC CDR, 31ST AVN UNIT, 1ST CORPS CHIEF, AVN G-3, TROKA CHIEF, AVN PLANS, DCSOPS CHIEF, AVN G-3, SROKA CDR, AVN UNIT, 1ST CORPS CDR, AVN UNIT, 6TH CORPS SP ASST DCDR, USAAVNC JUSMAG-K JUSMAG-K JUSMAG-K

PART 1. INTRODUCTION

SPACER 1 HISTORICALLY, MAN HAS ATTEMPTED TO ENHANCE HIS

COMBAT EFFECTIVENESS AND TO ACHIEVE TACTICAL ADVANTAGE

OVER HIS ENEMY THROUGH INNOVATIONS IN EQUIPMENT OR

IMAGINATIVE TACTICS. HISTORY INDICATES HIS SUCCESS IN

THESE EFFORTS.

SLIDE 2 GREAT KOREAN MILITARY LEADERS SUCH AS ADMIRAL

YI-SUN SIN HAVE HAD THE UNIQUE ABILITY TO TAKE THE LIMITED

RESOURCES AVAILABLE AND USE THEM TO GAIN TACTICAL

SUPERIORITY. WE CONTINUE THIS SAME EFFORT TODAY.

IN THE EARLY 1950'S, THE KOREAN WAR PROVIDED

THE FIRST COMBAT PROVING GROUND FOR UNITED STATES ARMY

HELICOPTER UNITS.

SLIDE 3 THE IMPRESSIVE LIFESAVING RECORD OF THE MEDICAL EVACUATION

HELICOPTERS, AS THEY RESCUED WOUNDED FROM THE RUGGED KOREAN

RIDGELINES, BOLSTERED THE MORALE OF THE FORT-SOLDIER AND

EARNED THE OH-13 ITS NICKNAME OF "KOREAN ANGEL." THE

POTENTIAL OF THE HELICOPTER WAS READY TO UNFOLD.

WITH THE INTRODUCTION OF THE CARGO AND THE UTILITY

.

TYPE HELICOPTERS AFTER THE KOREAN WAR, THE UNITED STATES

ARMY DEVELOPED DOCTRINE AND TECHNIQUES TO EMPLOY INCREASINGLY

MORE CAPABLE FIXED - AND ROTARY-WING AIRCRAFT AS PART OF

THE GROUND COMMANDER'S PLAN OF FIRE AND MANEUVER.

(PAUSE)

SLIDE 4 (PICTURE H-19, (PAUSE)

SLIDE 5 H-34) IN THE EARLY 1960'S, SPECIALLY FORMED AVIATION UNITS,

SLIDE 6 SUCH AS THE 11TH AIR ASSAULT DIVISION TEST WERE EQUIPPED,

MANNED AND TESTED FOR EUROPEAN MID-INTENSITY COMBAT.

SLIDE 7 HOWEVER, THE VIETNAM CONFLICT INTERRUPTED THESE EFFORTS.

TO LAY ASIDE SOME OF THE NEWLY EVALUATED AVIATION DOCTRINE

DEVELOPED BY THE 11TH AIR ASSAULT DIVISION IN FAVOR OF

TECHNIQUES THAT WERE MORE SUITABLE AGAINST AN ENEMY

POSSESSING UNSOPHISTICATED EQUIPMENT. THE GREATEST THREAT

WAS FROM ENEMY SMALL ARMS AND AUTOMATIC WEAPONS. FLIGHTS

AT ALTITUDES AT 1500 FEET (ABOVE THE EFFECTIVE RANGE OF

SMALL ARMS FIRE) EASED THIS THREAT.

HOWEVER, THE PICTURE CHANGED TOWARD THE END OF

THAT CONFLICT. TWO HISTORICAL EXAMPLES OF AIRMOBILE

WARFARE IN A HIGH THREAT ENVIRONMENT CAME FROM THE VIETNAM

WAR. THE CAMBODIAN OPERATION APRIL -- JUNE 1970, WHEN A

DIVISION SIZE AIRMOBILE ASSAULT WAS MADE INTO CAMBODIA AND AN ASSAULT INTO LAOS IN THE EARLY SPRING OF 1971 CALLED LAM SON 719.

SURPRISINGLY, THE HELICOPTER PROVED REMARKABLY

STRONG AND SURVIVABLE IN THE HOSTILE AIR DEFENSE ENVIRONMENT

DURING BOTH OF THESE OPERATIONS.

SLIDE 8 THE NURTH VIETNAMESE HOWEVER, IN 1972-73, INTRODUCED

SLIDE 9 GROUND TO AIR HEAT SEEKING MISSILES (SA-7). THIS <u>SINGLE</u>

WEAPON QUICKLY FORCED THE AVIATION COMMUNITY TO RETURN

TO LOW LEVEL, AND NAP-OF-THE-EARTH TECHNIQUES LEARNED

DURING THE 11TH AIR ASSAULT TEST.

IN ORDER TO FIGHT AND WIN ON THE MODERN BATTLE-SLIDE 10 FIELD, IT IS NECESSARY TO MOVE RAPIDLY TO CONCENTRATE FORCES. ALSO IT IS NECESSARY TO FIGHT USING TERRAIN,

THE RIDGE LINES AND TO PROVIDE SUPPRESSION IN SUCH A WAY

THAT FAVORABLE EXCHANGE RATIOS ARE ACHIEVED.

THE HELICOPTER HAS ADDED A NEW DIMENSION TO

SLIDE 11 BATTLEFIELD MOBILITY. WHEN COMBINED WITH IMPROVED, FASTER

SLIDE 12 GROUND VEHICLES, HELICOPTERS ENABLE COMMANDERS TO CONCENTRATE

COMBAT POWER AT THE CRITICAL TIME AND PLACE.

TO YOUR FORCES, HE WILL HAVE THE INITIATIVE: ROK FORCES

WILL, THEREFORE, FIND IT DIFFICULT TO COVER THE WHOLE FRONT

AND TO FIND SUFFICIENT TROOPS FOR RESERVES, WHICH CAN

COUNTER ENEMY PENETRATIONS, OR EXPLOIT FAVORABLE SITUATIONS.

TO SOME EXTENT, THIS MAY BE OVERCOME BY THE USE OF MOBILITY,

HOWEVER, THERE ARE SOME DRAWBACKS; ARMY AND CORPS ARMORED

RESERVES, LOCATED SOME DISTANCE BEHIND THE FORWARD EDGE OF
THE BATTLE AREA (FEBA) MAY UNDERGO CONSIDERABLE ATTRITION
FROM ENEMY AIR ATTACKS ON THEIR MOVE FORWARD. THEY MAY BE

SLIDE 14 HAMPERED, FOR EXAMPLE, BY THE MOVEMENT OF REFUGEES, ROUTE .

OBSTRUCTION, WEATHER, ETC., AND ARRIVE TOO LATE TO BE

Somerve

EFFECTIVE BECAUSE OF THE DISTANCE THEY HAVE TO TRAVEL. IF

DEPLOYED TOO FAR FORWARD, ON THE OTHER HAND, THEY MAY BE

COMMITTED, TOO EARLY OR MAY BE LOCATED INCORRECTLY IN

RELATION TO WHERE THEY ARE MOST NEEDED. THIS PROBLEM WILL

BE AGGRAVATED BY THE INCREASED TEMPO OF OPERATIONS EXPECTED

IN THE FUTURE, AND SHOWS THE NEED TO HAVE TROOPS, WEAPONS,

AND ESPECIALLY RESERVES, WITH MOBILITY SUPERIOR TO THAT OF

THE ENEMY GROUND FORCES.

HELICOPTERS, AS YOU HAVE SEEN FROM OUR SCENARIO, BY

SLIDE 15 ARTIFICAL OBSTACLES RELATIVELY EASILY, CAN GREATLY ASSIST

THE QUICK MOVEMENT OF TROOPS OR WEAPONS OR CAN THEMSELVES

SLIDE 17
-SPACER 16 PROVIDE A QUICK REACTION WEAPONS PLATFORM. THEY CAN BE

PARTICULARLY VALUABLE IN PROVIDING AN IMMEDIATE RESPONSE

TO AN ENEMY THREAT IN ORDER TO CAUSE DELAY AND DISRUPTION

UNTIL MORE HEAVILY ARMED GROUND FORCE CAN BE DEPLOYED TO

ENGAGE THE ENEMY.

PART II. TOTAL SYSTEMS INTEGRATION

SLIDE 19 LET US NOW TURN OUR ATTENTION TO VIEWING ARMY AVIATION AS A TOTAL SYSTEM PACKAGE.

TOTAL SYSTEMS INTEGRATION IS A MANAGEMENT TOOL. PREVIOUSLY, MANY LARGE CIVILIAN ORGANIZATIONS HAVE BOUGHT NEW EQUIPMENT, INTRODUCED A NEW PRODUCT, OR IN THE CASE OF THE ARMY, FIELDED NEW EQUIPMENT WITHOUT A FULL UNDERSTANDING OF THE IMPACT IT WOULD HAVE ON TRAINING, LOGISTICS AND THIS LACK OF A TOTAL SYSTEMS VIEW HAS LED TO NUMEROUS DELAYS IN COMBAT READINESS, AND REQUIRED FIXES, TO MAKE THE EQUIPMENT WORK AS ORIGINALLY ADVERTISED. IN THE ARMED FORCES NOW RECOGNIZE THE NEED FOR A COORDINATED EFFORT IN DECIDING WHAT KIND OF EQUIPMENT THAT WE NEED, AND THEN HOW BEST TO DESIGN IT, BUILD IT, FIELD IT,

AND ULTIMATELY REPLACE IT.

THE FOCUS OF TOTAL SYSTEM MANAGEMENT IS THAT

SLIDE 13 TOMORROW'S TACTICAL CONCEPT FOR FIELDING A WEAPON SYSTEM

WILL CLEARLY INCLUDE HARDWARE, SUPPORT, AND CREW REQUIRE
MENTS. FURTHER, THAT TRAINED PERSONNEL WILL BE AVAILABLE

WHEN THE SYSTEM IS FIELDED. THE RESULT OF TOTAL SYSTEM

MANAGEMENT WILL MEAN MAXIMUM COMBAT EFFECTIVENESS - -

HERE ARE SEVERAL REASONS, THAT HAVE LEAD THE US ARMY,

TO THE DEVELOPMENT OF THE TOTAL SYSTEMS CONCEPT:

EQUIPMENT HAS BECOME MORE COMPLEX, IT IS MORE COSTLY TO BUILD AND MORE DIFFICULT TO OPERATE.

* SLIDE 19 (PICTURE OF AH-1 PANEL ETC.). BECAUSE IT IS MORE COSTLY

TO OPERATE AND MORE COMPLEX, BETTER TRAINING TECHNIQUES

SLIDE 20 ARE REQUIRED. (PAUSE) FOR EXAMPLE, THE USE OF FLIGHT

SIMULATOR'S --- AS SHOWN ON THE SCREEN.

SLIDE 23 (PAUSE) THE COST SAVINGS FOR THE US IS \$226 PER FLIGHT
HOUR ON THE UH-1 SIMULATOR. THESE SAVINGS WILL AGAIN
CHANGE WITH THE INCREASE IN AVIATION FUEL COST.

INTEGRATION WE MUST HAVE AN ORDERLY FLOW OF THOUGHTS FROM
THE INITIAL IDEA TO THE COMPLETION OF THE PROBLEM. THE
MANAGEMENT TOOL NORMALLY USED, TO VISUALLY DEPICT THIS
THOUGHT PROCESS, IS CALLED A MANGEMENT MODEL. THE MODEL
THAT WE WILL USE TO ILLUSTRATE THIS PROCESS IS A PERT
DIAGRAM WHICH DEPICTS THE FLOW OF EVENTS IN A SIMPLIFIED
FORM. THE MODEL IS EVENT, AND TIME ORIENTED. FIRST, LET
SLIDE 25 ME EXPLAIN WHAT PERT IS. THE LETTERS P-E-R-T STAND FOR

PROJECT EVALUATION AND REVIEW TECHNIQUE. THIS TECHNIQUE

IS USED TO ANALYZE, COORDINATE AND CONTROL FROGILLS.

ON A PROJECT. THE METHOD WAS FIRST DEVELOPED IN 1953 IN

CONJUNCTION WITH THE BUILDING OF THE US NAVY'S FIRST

BALLISTIC MISSILES SUBMARINES. IT HAS BEEN ESTIMATED THAT

THE USE OF PERT SAVED UP TO TWO YEARS TIME IN THE COMPLETION

OF THAT PROJECT. SINCE THAT TIME, PERT HAS BEEN USED

EXTENSIVELY IN THE MILITARY AND CIVILIAN BUSINESS. IT

HAS BECOME A MANAGEMENT TOOL OF MAJOR IMPORTANCE.

SLIDE 28 A PERT DIAGRAM IS ESSENTIALLY A CHART WHICH SHOWS

THE FLOW OF WORK. THE DIAGRAM IS MADE UP OF A SERIES OF

BLOCKS WITH CONNECTING LINES. THE BLOCKS REPRESENT A

MILESTONE OR THE START OR COMPLETION OF AN EVENT. THE

LINES REPRESENT THE ACTIVITIES WHICH MUST OCCUR BETWEEN

EVENTS. THE LINE, THEREFORE, REPRESENTS A PERIOD OF TIME.

A PERT DIAGRAM IS DESIGNED SO THAT ALL ACTIVITIES PRIOR

TO AN EVENT MUST BE COMPLETED BEFORE THAT EVENT CAN TAKE

PLACE.

LET'S NOW RELATE ON THIS PERT DIAGRAM, WHAT I JUST

SAID, TO YOUR AVIATION PROGRAM. YOU ALL KNOW THAT THE

MODERNIZATION AND TRANSFER PROGRAM MUST BE COMPLETED BY

1982. ROKA IS WELL DOWN THE ROAD IN THE DECISION ON WHAT

IS NEEDED AND WHAT ITEM OF EQUIPMENT FILLS THE REQUIREMENTS.

HOWEVER, ACTIONS YET TO BE COMPLETED, INCLUDE THE DEPLOYMENT

OF THE AIRCRAFT INTO UNITS. NORMALLY, THIS PROCESS BEGINS

WITH PLANNING FOR THE BASIS OF ISSUE.

BASE VGT SLIDE 27

BEGINNING IN 1978 AND 1979 AIRCRAFT NEEDS WERE

IDENTIFIED, AS SHOWN IN EVENT #1. THEN MOVING TO EVENT #2, THE DRAFT TOE WAS DEVELOPED AND FROM THAT TOE WE BRANCH OUT TO LOOK AT TRAINING, PERSONNEL, AND LOGISTICS, IN EVENT #3 AND #4. WITH FURTHER PLANNING DURING THAT YEAR WE SEE THAT THE LOGISTICS SUPPORT PLAN MUST IDENTIFY LONG LEAD TIME ITEM PROCUREMENT REQUIREMENTS. MOVING TO EVENT #5 -THE TRAINING PLANS ARE FORMULATED AND IN THAT PLAN WE MUST ·LOOK ACROSS THE SPECTRUM OF ENLISTED AS WELL AS OFFICER TRAINING AND THAT LEADS LOGICALLY INTO EVENT #8 WHICH IS THE SUPPORT FOR THAT TRAINING. SO WE CAN SEE THAT IN 1979 YOUR LOGISTICS, PERSONNEL AND TRAINING FINAL PLANNING IS TAKING PLACE AND THAT THE YEAR 1980 WILL BE THE YEAR FOR FINAL CRITICAL MANAGEMENT AND FISCAL DECISION MAKING.

AS WE MOVE THROUGH THE YEAR 1980, SPECIFICALLY IN STEPS

SLIDE 29 #12 AND #13 IT IS MANDATORY THAT THE EM AND OFFICERS BASIC

TRAINING BE WELL UNDER WAY IN ORDER TO MEET THE TOTAL

DEMANDS FOR AVIATORS AND CREW CHIEFS IN 1982. ALSO IN 1980

THE TOE, EVENT #11, IS PUBLISHED SO THAT ALL ORGANIZATIONS

AND STAFF LEVELS HAVE A WORKING DOCUMENT TO INFLUENCE THE

TRAINING, PERSONNEL AND LOGISTICS SYSTEMS AS THEY ARE

MOVING RAPIDLY INTO 1981, MAJOR ACTIONS MUST BE

SLIDE 27 COMPLETED OR UNDER WAY, SPECIFICALLY EVENT #19, #20, AND

#21. HERE THOSE PERSONNEL WHO ARE TO FLY THE CH-47

AND AH-1 HELICOPTERS AND MAINTAIN AND SUPPORT THEM MUST

BE WE'L INTO THE TRAINING CYCLE. ADDITIONALLY SUPPORT

PLANNING MUST BE COMPLETED AS INDICATED IN EVENT #19 AND

PEVELOPED.

THE NECESSARY TOOLS, PARTS AND SUPPORT EQUIPMENT IN THE PROCUREMENT CYCLE SO AS TO BE ON HAND FOR THOSE AIRCRAFT BY 1982.

IN 1982, THE PROJECTED YEAR FOR THE COMPLETION OF ROKA AVIATION IMPROVEMENTS, ALL PLANNING, PROCUREMENT AND INITIAL TRAINING MUST BE COMPLETED. IN THAT YEAR WE SHOULD SEE NEWLY FORMED AVIATION UNITS. THEY SHOULD BE FORMED FROM THE NEW TABLES OF ORGANIZATION, BE MANNED BY NEWLY TRAINED PERSONNEL, AND THOSE PERSONNEL SHOULD HAVE THE EQUIPMENT NECESSARY TO KEEP THE AIRCRAFT FLYING ON A CONTINUING BASIS.

SLIDE 23 PURPOSES, ADDED SOME TIMES IN MONTHS BETWEEN EVENTS. (PAUSE)

THE TIME FRAME OBJECTIVES ESTABLISHED HERE ARE EQR

EXAMPLE ONLY AND ARE NOT INTENDED TO PORTRAY ACTUAL ROKA

PLANS. THEY DO NOT ACCOUNT FOR THE INTERNAL AND EXTERNAL

ENVIRONMENT OF THE REPUBLIC OF KOREA AND ARE MADE WITH NO

KNOWLEDGE OF CURRENT GUIDANCE FROM THE MINISTRY OF DEFENSE

AND THE ROKA GENERAL STAFF.

WE ADDED ON THIS OVERLAY EXAMPLES OF HOW LONG IT MIGHT

TAKE TO COMPLETE EVENTS. WITH THESE TIMES ADDED TO THE

PERT DIAGRAM WE SEE THE PATH WHICH TAKES THE MOST TIME OR

SLIDE 29

4TH FLIP RESOURCES, IS SHOWN HERE IN RED. IN OUR EXAMPLE, THIS

PATH TAKES 69 MONTHS. THIS IS CALLED THE CRITICAL PATH.

THE PURPOSE OF DEFINING THE CRITICAL PATH, IS TO DETERMINE

WHERE MODIFICATIONS MUST BE MADE AND TIME BETWEEN EVENTS

ANALYZED OR SHORTENED TO REACH THE GOAL OF THE 48 MONTH

PROGRAM. (1979 - 1982)

ONCE AGAIN, WE SHOW THESE NUMBERS AND THIS MODEL

AS AN EXAMPLE OF A MANAGEMENT TOOL. IT IS NOT INTENDED

TO IN ANY WAY SUPERCEDE YOUR CURRENT ACTIONS OR GUIDANCE

SPACER FROM YOUR GENERAL STAFF.

PART III. PROBLEMS

SLIDE 33 WITH THE PROJECTED INCREASE IN THE NUMEROUS

HELICOPTER FOR THE KOREAN ARMY, THERE WILL OBVIOUSLY BE

A SHARP INCREASE IN PERSONNEL REQUIREMENTS. PROJECTED ROKA

TRAINING REQUIREMENTS ARE FOR APPROXIMATELY 900, AVIATORS AND

2000 CREW CHIEFS TO BE TRAINED BEFORE 1986. ADDITIONALLY, THE

TRAINING FACILITIES MUST BE CAPABLE OF TRAINING REPLACEMENTS

AS CURRENT AVIATION PERSONNEL DEPART THE SERVICE OR ARE

PROMOTEDON TO NEW ASSIGNMENTS.

THE US ARMY EXPERIENCED SIMILAR PROBLEMS WITH THE INCREASED BUILDUP OF AVIATION DURING VIETNAM. WE QUICKLY DISCOVERED THAT OUR ASSETS AND METHODS OF TRAINING WERE NOT DESIGNED TO SUPPORT SUCH A LARGE INCREASE.

THERE ARE SEVERAL POSSIBLE ALTERNATIVES TO MEETING THE GROWING TRAINING REQUIREMENTS.

-SLIDE 32 THREE SPECIFIC ALTERNATIVES WILL BE ADDRESSED:

- A. UNIT TRAINING OF AVIATORS
- B. FT RUCKER TRAINING OF ROKA AVIATORS
- C. ROKA SCHOOL TRAINING OF AVIATORS

RESPONSIBILITY FOR INITIAL ROTARY QUALIFICATION AND ADVANCED

AIRCRAFT TRANSITION, THE INTEGRITY OF THE UNIT AND READINESS

POSTURE WOULD BE EFFECTED. EACH UNIT WOULD BE ABLE TO

MAINTAIN A LARGER NUMBER OF PERSONNEL AT UNIT LEVEL, AND

UNIT STRENGTH WOULD NOT BE HAMPERED BY SERVICE SCHOOL

BACKLOG. UNFORTUNATELY, THIS WOULD PLACE A TREMENDOUS

BURDEN UPON THE UNIT TO ESTABLISH AND CONDUCT A TRAINING

PROGRAM OF THIS MAGNITUDE.

TO MEETING THE TRAINING REQUIREMENT IS FOR A PORTION OF ROKA

PERSONNEL TO BE TRAINED AT THE US ARMY AVIATION CENTER.

REALIZING THAT AGREEMENTS OF THIS LEVEL REQUIRE MILITARY AND

STATE DEPARTMENT COORDINATION, NEVERTHELESS, IT DOES

REPRESENT AN ALTERNATIVE THAT SHOULD BE EVALUATED. THIS

THE MAJOR ADVANTAGE TO FT RUCKER TRAINING OF ROKA PILOTS

IS THAT IT WOULD GREATLY DECREASE THE TRAINING LOAD IN KOREA. --BY HAVING BOTH KOREAN AND AMERICAN AVIATION TRAINING PROGRAMS,

THE PERSONNEL SHORTAGES COULD BE FILLED QUICKER WITH LESS

STRESS ON YOUR TRAINING SYSTEM. ADDITIONALLY, MORE ROKA

TYPE OF PROGRAM WAS INITIATED FOR TRAINING VIETNAMESE PILOTS

AT THE AVIATION CENTER AND A TOTAL OF 1586 WERE TRAINED.

AVIATORS WOULD BE FAMILIAR WITH UNITED STATES AVIATION EQUIPMENT AND THEIR ABILITY TO SPEAK ENGLISH WOULD GREATLY IMPROVE.

PERHAPS THE BEST UTILIZATION OF FT RUCKER TRAINING WOULD BE TO TRAIN ROKA INSTRUCTOR PILOTS. THIS IS WHERE YOU WOULD TRAIN THE TRAINER. BY TAKING QUALIFIED ROKA AVIATORS AND TRAINING THEM AT FT RUCKER AS INSTRUCTOR PILOTS, IT WOULD PROVIDE ADDITIONAL INSTRUCTORS NEEDED FOR THE ROKA AVIATION SCHOOL. THIS WOULD ALLOW THE ROKA AVIATION SCHOOL TO USE MAXIMUM FACILITIES FOR INITIAL AVIATOR TRAINING. THESE FT RUCKER TRAINED INSTRUCTOR PILOTS WOULD PROVIDE THE BACKBONE FOR THE ROKA TRAINING PROGRAM, AND WOULD BECOME FAMILIAR WITH THE US ARMY EQUIPMENT AND TACTICAL FLYING PROCEDURES. THE GREATEST DRAWBACKS TO THIS PROGRAM ARE THE COST.

SLIDE 35

THE THIRD ALTERNATIVE ROKA SCHOOL TRAINING OF AVIATORS.

IF WE ASSUME THAT THE ROK ARMY, WITHOUT SUBSTANTIAL OUTSIDE

ASSISTANCE, WILL TRAIN THE NECESSARY AVIATION PERSONNEL, A

RESTRUCTURING OF ROK TRAINING MAY BE NECESSARY. IN ORDER

TO MEET THE GOAL OF 1452 TRAINED AVIATORS BY 1982, THE

STUDENT OUTPUT AT THE ROKA AVIATION SCHOOL MUST ALMOST

DOUBLE FROM PREVIOUS YEARS.

SEIDE-36

SLIPE 38.

EACH OF THE THREE ALTERNATIVES WE HAVE JUST ADDRESSED HAS ITS OWN MERITS. THE BEST SOLUTION FOR ROKA MAY BE ONE OR A COMBINATION OF THE THREE OPTIONS. MOST IMPORTANT IS THAT YOU DETERMINE THE OVERALL OBJECTIVE AND "TAILOR" A

PROGRAM THAT WILL BEST SUIT YOUR OVERALL PLAN.

SPACER 39

IT IS APPROPRIATE BEFORE LEAVING THE TRAINING AREA TO MENTION TWONTOOLS THAT WE HAVE DEVELOPED TO ASSIST US. THE FIRST OF THESE IS A PROCESS FOR DEVELOPMENT OF TRAINING CALLED INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD). THIS PROCESS, THROUGH FIELD SURVEYS AND JOB ANALYSIS IN UNITS, DEVELOPS A PROGRAM FOR WHAT IS TO BE TRAINED. IT DEVELOPS A LISTING OF THOSE TASKS WHICH ARE CRITICAL TO ADEQUATE JOB PERFORMANCE, AND #/ SLIDE 39 ELIMINATE THOSE WHICH ARE OF LITTLE VALUE BECAUSE THEY ARE SELDOM NEEDED. THIS ANALYSIS IS BASED ON WHAT IS NEEDED BY THE UNITS IN THE FIELD. IN THE PAST AVIATORS HAVE REACHED THEIR UNIT WITH A GREAT DEAL OF TECHNICAL INFORMATION ABOUT FLYING BUT LITTLE UNDERSTANDING OF THE APPLICATION OF THAT INFORMATION TO PERFORMANCE OF THE UNITS TACTICAL MISSION. THE SAME HAS BEEN TRUE OF OUR TECHNICAL MANUALS

WHICH CONTAIN MUCH TECHNICAL INFORMATION BUT LITTLE

APPLICATION OF THE DATA. THE ISD PROCESS WILL CORRECT

THIS DEFICIENCY.

SLIDE 40 AIRCREW TRAINING MANUAL (ATM). THE APPLICATION OF

ISD TO INDIVIDUAL AND UNIT TRAINING IS THE SECOND TOOL

I SHOULD TELL YOU ABOUT.

THAT TOOL IS THE DEVELOPMENT AND USE OF THE AIRCREW

TRAINING MANUAL (ATM). AVIATION TRAINING IN THE PAST HAS

BEEN DIRECTED BY HIGHER HEADQUARTERS IN TERMS OF SUBJECT AREAS

AND REQUIRED MINIMUM FLIGHT HOURS. EACH HEADQUARTERS THEN

ADDED MORE SPECIFIC GUIDANCE UNTIL THE UNIT COMMANDER IN

CHARGE OF CONDUCTING THE TRAINING, HAS LITTLE FREEDOM TO

DIRECT TRAINING TO THE SPECIFIC NEEDS OF HIS PERSONNEL

OR HIS UNIT. IN 1976 WE RECOGNIZED THAT THIS APPROACH DID

NOTHING TO ASSURE PROFICIENCY IN COMBAT REQUIRED SKILLS.

SLIDE 12 FOR THIS REASON THE ATM WAS DEVELOPED. (PAUSE) IT IS THE TOOL

THE COMMANDER USES TO DEVELOP A REALISTIC INDIVIDUAL TRAINING

PROGRAM FOR HIS AVIATORS. IT CONTAINS A LIST OF THOSE

TASKS WHICH EACH AVIATOR MUST BE ABLE TO PERFORM UNDER

SPECIFIC CONDITIONS AND STANDARDS. THE RESULT OF THIS

PROCESS IS THAT AVIATORS WILL BE TRAINED AND EVALUATED TO

A UNIFORM STANDARD, AND INDIVIDUAL TRAINING WILL BE AIMED

AT AREAS THAT NEED IMPROVEMENT. THIS SUBJECT WILL BE

DISCUSSED IN DETAIL IN THE WORKSHOPS.

REQUIREMENTS IN AVIATION AND HAS STATED AN INTEREST IN

SLIDE 43 AVIATION STANDARDIZATION AND ACCIDENT PREVENTION AS ELEMENTS

OF THEIR PROGRAMS AND POLICIES.

BACKGROUND

SLIDE 46

AVIATION SAFETY HAS BEEN A PART OF THE US ARMY FLIGHT

TRAINING PROGRAM EVER SINCE STUDENT AVIATORS WERE TRAINED AT

THE ARTILLERY SCHOOL, IN FT SILL, OKLAHOMA. ACCIDENTS

WERE REVIEWED AND ANALYZED AND IN 1962 IT WAS NOTED THAT

THE NUMBER OF ACCIDENTS, INCIDENTS AND FORCED LANDINGS

EQUALLED 25 PERCENT OF THE TOTAL ARMY AIRCRAFT FLEET.

THESE UNHAPPY STATISTICS CAUSED A STUDY TO BE MADE

RECOMMENDING A FORMAL, ARMY WIDE, STANDARDIZATION

PROGRAM. THE VIETNAM CONFLICT REINFORCED THE NEED FOR

STANDARDIZATION AND IN 1972 DEPARTMENT OF THE ARMY

DIRECTED A FORMAL PROGRAM BE ESTABLISHED.

SLIDE 47

ACCIDENT PREVENTION

THE CONCEPT THAT PROPER TRAINING AND EXECUTION OF

PROCEDURE RESULTS IN INHERENTLY SAFE OPERATIONS IS BASIC TO THE AVIATION SAFETY PROGRAM.

SPACER 46 ARMY AVIATION ACCIDENT PREVENTION PROGRAM.

THE ARMY AVIATION ACCIDENT PREVENTION PROGRAM INCLUDES

COMMAND AND STAFF, EDUCATION AND TRAINING, EVALUATIONS,

STANDARDIZATION AND PROFICIENCY, SAFETY OF FLIGHT, MATERIEL

DEFICIENCIES, SYSTEM SAFETY, AND LIFE SCIENCES. ACCIDENT

PREVENTION PROGRAMS REQUIRE COMMAND SUPERVISION, THE

APPLICATION OF SOUND MANAGEMENT PRINCIPLES, AND THE

DEVELOPMENT OF ACCIDENT PREVENTION MEASURES.

IMPORTANCE. THE IMPORTANCE OF AVIATION SAFETY CAN BE RELATED BY THE FOLLOWING:

SLIDE 47 IN 1964 THERE WERE 26 ACCIDENT FOR EVERY 100,000 FLIGHT HOURS; IN 1978 THAT FIGURE WAS REDUCED TO 6 ACCIDENTS FOR

EVERY 100,000 FLIGHT HOURS. HAD THE 1964 ACCIDENT RATE

CONTINUED WITH THE GROWTH OF AVIATION THE COST IN MANPOWER

AND EQUIPMENT WOULD HAVE BEEN BEYOND OUR CAPABILITIES TO

SUPPORT. AVIATION ACCIDENT PREVENTION, IS A VERY IMPORTANT

AREA. IT MUST BE GIVEN STRONG COMMAND ATTENTION, AND TO BE

EFFECTIVE, MUST BE A FULL TIME FUNCTION, WHICH IS SUPPORTED

WITH MANPOWER AND MONETARY RESOURCES.

SLIDE 43

STANDARDIZATION.

"THE GOAL OF OUR AVIATION STANDARDIZATION PROGRAM IS TO IMPROVE UNIT READINESS, AVIATION SAFETY, AND PROFESSIONALISM BY USING STANDARD PROCEDURES AND TECHNIQUES." THIS PROGRAM IS ACTIVE AT DEPARTMENT OF THE ARMY, THE AVIATION SCHOOL DOWN TO AND THE SMALLEST AVIATION UNIT IN THE ARMY.

THE AVIATION CENTER, FORT RUCKER, ALABAMA IS THE DEPARTMENT OF THE ARMY ACTION AGENCY FOR CENTRALIZED CONTROL OF THE STANDARDIZATION PROGRAM.

SPACER 49 LET US TURN OUR ATTENTION TO ANOTHER VERY IMPORTANT

MANAGEMENT AREA, THE FLYING HOUR PROGRAM.

AVIATION IS COSTLY IN MATERIEL AND MANPONER. THOSE

COSTS ASSOCIATED WITH MODERNIZING, BUILDING AND MAINTAINING

YOUR AVIATION PROGRAM MUST BE CONSIDERED AND EFFECTIVELY

MANAGED IN ORDER TO REALIZE COST EFFECTIVE AVIATION THAT

STILL MEETS YOUR NEEDS.

THE US ARMY USES A FIELD MANUAL WHICH PROVIDES CURRENT

COSTS OF OPERATING AND MAINTAINING AIRCRAFT. BY COMPARING

THESE FIGURES TO ROKA PROJECTED AIRCRAFT STATUS AND FLYING

HOUR PROGRAM, AN ESTIMATE CAN BE MADE OF THE COST.

SLIDE 52 THIS IS PORTRAYED GRAPHICALLY BY THE USE OF PIE CHARTS SHOWING THE PRESENT PERCENT OF ROKA FUNDS SPENT ON AVIATION IN 1978 AND THE 1982 PROJECTED FIGURES. -- SEVERAL STUDIES HAVE PROJECTED THE EX-PENDITURE RATE OF FUEL AND AMMUNITION IN AN ACTIVE CONFLICT. WHILE THE NUMBERS VARY A GREAT DEAL, IT IS CONCLUDED THAT GREAT QUANTITIES OF FUEL AND AMMUNITION WILL BE EXHAUSTED, THAT MEANS MONEY. FOR EXAMPLE, DURING A RECENT EXERCISE HERE IN ROKA THE SLIDE 53 RESOURCES REQUIRED TO LIFT AN INFANTRY REGIMENT. 70 KM TOOK OVER 620 DRUMS (33,000 GALS) OF AVIATION FUEL (JP-4) AND 6 HOURS TO EXECUTE THE MISSION.

PART IV. ORGANIZATION (ASE).

SLIDE 54 AIRCRAFT SURVIVABILITY EQUIPMENT (ASE).

THIS AREA HAS BEEN ADDRESSED BEFORE BUT DOES REQUIRE CONSIDERATION AS A PART OF MANAGEMENT. THE REASON IS THAT UNLESS AIRCRAFT AND CREWS ARE PREPARED TO MEET THE EXPECTED THREAT FROM SOPHISTICATED ANTI-AIRCRAFT WEAPONS THEY WILL NOT SURVIVE THE FIRST ENGAGEMENT. THUS, MANAGERS MUST ANALYZE THE THREAT AND DETERMINE WHAT EQUIPMENT NEEDS TO BE PURCHASED AND WHAT TRAINING SHOULD BE GIVEN TO PILOTS TO ASSURE THE BEST COMBINATION IN ORDER TO SURVIVE ON THE HIGH THREAT BATTLEFIELD.

TWO AREAS OF PARTICULAR IMPORTANCE ARE SIGNATURE REDUCTION AND CREW WARNING.

SIGNATURE REDUCTION. FOR THE ENEMY TO KILL THE AIRCRAFT ON THE BATTLEFIELD HE MUST FIRST DETECT THE AIRCRAFT THROUGH

VISUAL OR ELECTRONIC MEANS. TO DENY THE ENEMY THIS

OPPORTUNITY, IT IS NECESSARY TO REDUCE OR ELIMINATE THE

AIRCRAFT SIGNATURE WHICH ALLOWS DETECTION AND EVENTUAL

DESTRUCTION.

SLIDE 53 THE SPECIFIC AREAS WHICH MUST BE SUPPRESSED ARE:

INFRA-RED (IR) SIGNATURE,

FUSELAGE, AND HOT METAL AREAS, SOLAR GLINT, RADAR CROSS SECTION AND VISIBILITY.

CREW WARNING. CRITICAL TO SURVIVABILITY ON THE

BATTLEFIELD IS FOR THE CREW TO KNOW WHEN THE ENEMY HAS

DETECTED ITS AIRCRAFT. FOR ONCE THE ENEMY HAS DETECTED

THE AIRCRAFT, DESTRUCTION IS EMINENT UNLESS ACTION IS

TAKEN TO PREVENT IT. TO MEET THIS CRITICAL NEED,

SLIDE 56 CREW WARNING DEVICES ARE NOW AVAILABLE TO ALERT

FOR RADAR DIRECTED WEAPONS SYSTEMS.

SLIDE 57

SPACED SE

THE FOREGOING HAS BEEN AN OVERVIEW OF WHAT IS GOING

TO BE COVERED IN THE NEXT THREE DAYS IN THE MANAGEMENT AND TRAINING WORKSHOPS.

S410E 59

I AM SURE YOU RECOGNIZE THAT I HAVE COVERED A GREAT DEAL OF DATA; HOPEFULLY MUCH OF THE SUBJECT AREAS CAN BE DISCUSSED AND ABSORBED IN MUCH MORE DETAIL IN THE WORKSHOPS.

LET US NOW TAKE A 10 MINUTE BREAK. ON YOUR RETURN

I WILL BE FOLLOWED BY MR. CRIBBINS WHO WILL PRESENT THE

LOGISTICS OVERVIEW.

17

MANAGE PARTY

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Management Workshop Attendees

[관기분약 (연구감회)]

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Training Workshop Attendees

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MAJ. Paul 6.Mellen.							
Mad.	MAJ. Tomas A. Vatts.						
MAJ. Kim Hu Chun.							
MAJ.	MAJ. Walter, Hirman.						

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Logistics Workshop Attendees 군구분약 (연구집회)

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REPUBLIC OF KOREA



ARMY AVIATION MANAGEMENT WORKSHOP

APRIL

1979

PREFACE

This booklet is offered as an aid to note taking. It offers no information other than what you put into it. The outline of this booklet is the same as the presentation. The Briefing Officer may refer to a previously covered point, by following the outline you can quickly locate his reference.

This workshop will conclude with a seminar in which your participation is encouraged. By keeping your notes in this outline form, you can keep track of questions and suggestions for the seminar.

CONTENTS

		PAGE
Preface	•	Ĺ
Workshop	I ROKA Aviation Program	
I.	Administrative Notes	1
II.	Purpose	1
111.	Combined Arms Team (Combat)	1
IV.	Combat Service Support (JUSMAG-K & ROKA)	3
v.	TOE FY 79 vs 82	4
VI.	Equipment and Facilities FY 79 vs 82	5
VIJ.	Total Systems Integration	7
Workshop	II Management Opportunities	
Į.	Maximum Utilization of Facilities and Instructors	18
II.	Use of Civilian Flight Instructors	18
III.	Legal Aspects of Infusion	19
īV.	Three Level vs Four Level Maintenance	20

CONTENTS

		PAGE
. V.	Contract Depot Maintenance	21
VI.	Airspace Management	21
Worksl	nop III Other Management Considerations	
I.	Rapid Growth	24
II.	Funding Constraints	24
III.	Lateral Coordination	24
IV.	Language Training	25
v.	Infusion of US units with ROKA units	25
VI.	Recruitment (ROKA)	25
VII.	Information Program (ROKA)	26
vIII.	Tactical Employment of 500M-D & AH-lJ (ROKA)	26
IX.	ROKA CONUS Base Training (ROKA)	27
х.	Review and Conclusion	27

MANAGEMENT WORKSHOP ONE -- "PROGRAM MANAGEMENT"

I. Administrative Notes

II. Purpose

- III. Combined Arms Team
 - A. History
 - 1. Early
 - 2. Korea
 - 3. Vietnam

Lessons Learned 1. Concentration of Forces 2. Mobility Training Purpose of the Combined Arms Team 1. Prompt and Sustained Combat 2. Mobility 3. Decisive Employment

- D. Objectives for Training
 - 1. Priority
 - 2. Team Effort
 - 3. Realistic
- 1V. Combat Service Support

V. TOE 79 vs 82

- A. ARCSA III
 - 1. Purpose
 - 2. Priorities
- B. Force Structure
 - 1. Mission
 - 2. Interrelationship of process
 - 3. Results

- C. Tactical Employment
 - 1. Exploit Mobility
 - 2. Mass Forces
 - 3. Exploit Surprise and Firepower

the state of the s

- 4. Surpression and Information
- VI. Equipment and Facilities 79 vs 82
 - A. Equipment in General
 - 1. Aviation
 - 2. Mobility
 - 3. Communications
 - B. Fixed Wing Role

C.	Aircraft Survivability Equipment (ASE)	*
	1. Signature	
	2. Warning	•
	3. Countermeasures	¥**
	4. Technology	
D.	Training Facilities	
	1. Aviator	
	2. Other	
Е.	Combat Service Support Facilities	
	1. Growth	i
	2. Location	-

VII. Total Systems Integration

- A. The Total System Concept
 - 1. What
 - 2. Why
- B. An Example
 - 1. Maintenance
 - 2. Training
 - 3. Personnel

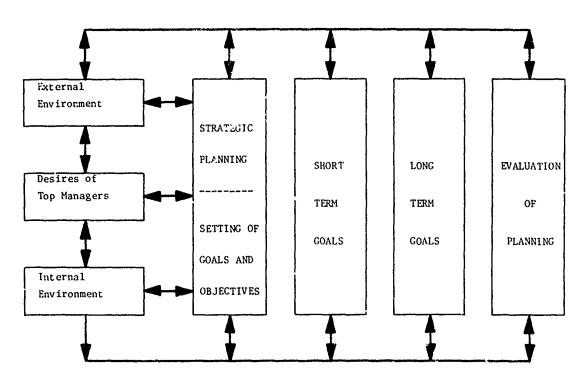
C. The Management Model

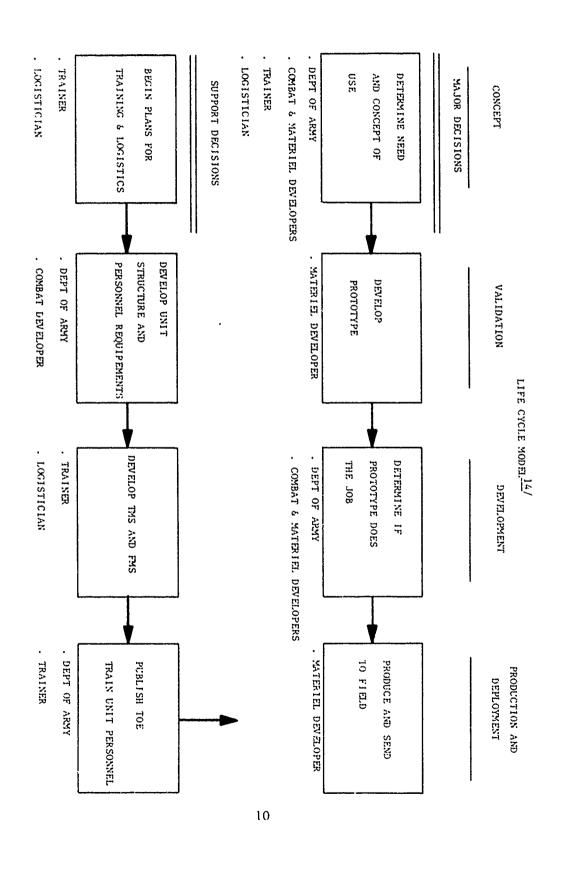
1. What

2. How Used

D. Military Planning Model

A GENERAL PLANNING MODEL $\frac{9}{}$





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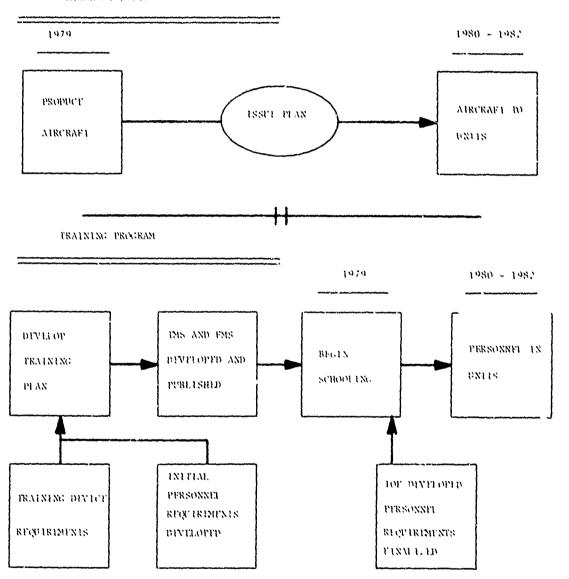
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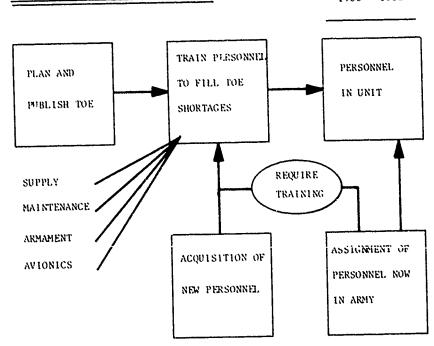
E. Aircraft Systems

F. Training Program

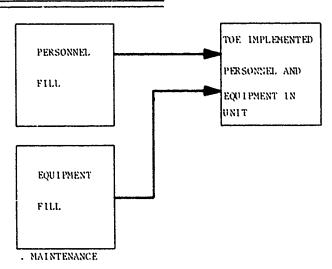


G. Personnel Requirements

H. Logistics



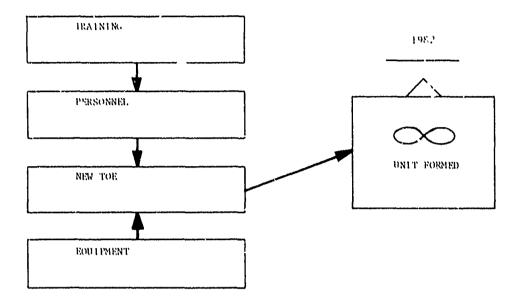
LOGISTICS PLANNING

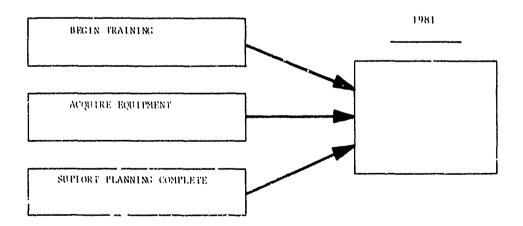


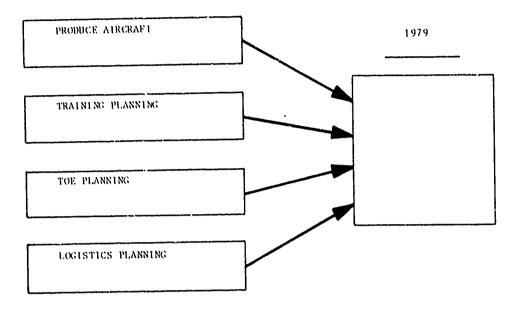
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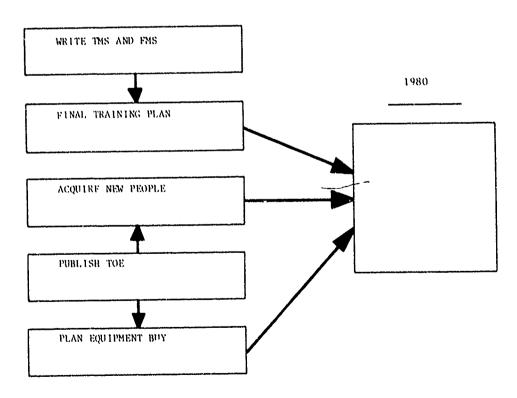
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I. Time Line Approach









MANAGEMENT WORKSHOP TWO -- "MANAGEMENT OPPORTUNITIES"

- 1. Maximum Utilization & Facilities & Instructors
 - A. Unit Training:
 - B. Fort Rucker Training:
 - C. ROKA School Training:

- II. Use of Civilian Flight Instructors
 - A. Use of ROK Army Civilians

B. Use of Korean Contract Flight Training

C. Use of Third Party (non-Korean) Contract Flight Training

III. Legal Aspects of Infusion

A. Property Transfer/Accountability:

B. Liability for Accidents and Incidents:

C. Method of Implementation:

IV. Three (3) Level vs Four (4) Level Aircraft Maintenance

۸.	Four	Level Maintenance:
	1.	Organizational
	2.	Direct Support
	3.	General Support
	4.	Depot
В.	Three	e Level Maintenance:
	1.	Aviation Unit Maintenance (AVUM)
	2.	Aviation Intermediate Maintenance (AVIM)
	3.	Depot

V. Contract Depot Maintenance

A. Total Military Depot Maintenance:

B. Military Control with Korean Civilian Employees:

C. Korean Civilian Contract Maintenance:

D. Third Party (non-Korean) Civilian Contract Maintenance:

IV. Airspace Management

A. Purpose:

- B. Responsibility:
- C. Organizations:
 - 1. Air Force
 - a. TACC-
 - b. CRC-
 - c. ACC-
 - d. AMLS-
 - 2. Army
 - a. FOC-
 - b. AME-
 - c. TOC-
- D. Control Measures:
 - 1. Coordinating Altitude -

2. Minimum Risk Routes -

- 3. High Density Airspace Control Zones -
- 4. Airfield Terminal Control Zones -
- 5. Standard-use Army Aircraft Routes -

E. Tactical Situation:

MANAGEMENT WORKSHOP THREE -- "Other Management Considerations"

T. Rapid Growth

II. Funding Constraints

- III. Lateral Coordination
 - A. User-Maintainer-Comptroller
 - B. Combined Arms Team

IV. Language Training

V. Infusion with US Units

VI. Recruitment

VII. Information Program

VIII. Tactical Employment of 500 M-D and AH-1J

IX. ROKA CONUS Base Training

X. Review and Conclusion

REPUBLIC OF AUREA



ARMY AWATION

TRAINING

MORKSHOP

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PREFACE

This booklet is offered as an aid to note taking. It offers no information other than what you put into it. The outline of this booklet is the same as the presentation. The Briefing Officer may refer to a previously covered point, by following the outline you can quickly locate his reference.

This workshop will conclude with a seminar in which your participation is encouraged. By keeping your notes in this outline form, you can keep track of questions and suggestions for the seminar.

CONTENTS

	,	7 ·	• • .	PAGE
Preface				£
RAINING WORKSHOP ONE	*	*	·	•
I. Training Developments			e e e e e e e e e e e e e e e e e e e	1
II. Army Training an? Evaluation	Program/	, ,	** *** 9* *	- •
Aircrew Training Manuals	`,`			3
III. Training Publications and Ai	ds .		, ,	
IV. Simulators/SFTS Software			\$.	ชั
TRAINING WORKSHOP TWO	•		* .	•
T. Avistor Training			•	9
II. Enlisted Training			•	10
III. On the Job Training-Infusion	-Interope	ability		12
TRAINING WORKSHOP TARRE		,	:	
I. Tactical Training				13
II. Aviation Safety Accident Pr	evention		,	°21

CUNTENTS

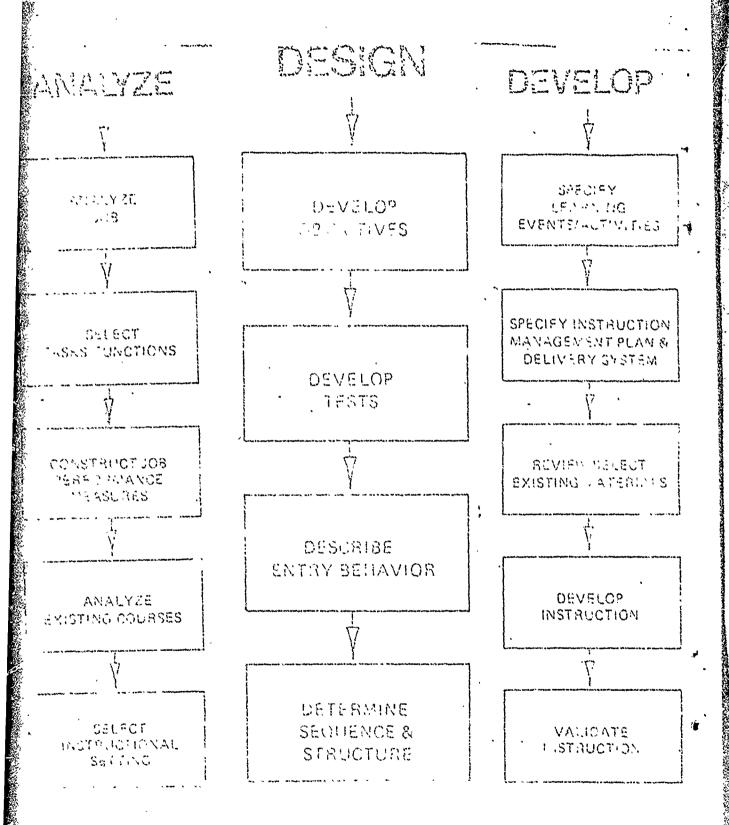
				•	•	PAGE
III.	Aviation	Standardization				2%
۲۷.	Aviation	Training in Serv	vice Scho	ools		. 25

TRAINING WORKSHOP ONE

- I. Training Developments
 - A. Introduction
 - B. Past Errors
 - C. Systems Explanation

D. Instructional Systems Development ISD

E. Analysis



The state of the s

F. Design

G. Develop

H. Implement

CONDUCT INTERNAL EVALUATION

CONDUCT EXTENDAL EVALUATION

> REVISE SYSTEM

IMPLEMENT INSTRUCTION AL MANAGEMENT PLAN

CONDUCT

I. Control

J. Review

II. Army Training and Evaluation Program/

Aircrew Training Manuals

A. Past Errors

B. Army Training and Evaluation Program (ARTEP)

C. Aircrow Training Harmal's (ACM)

D. Coordination of ARM and ACTEP

B. Use of ACM and NAISP

F. Relation of the IJE Process

III. Training sublications and Aids

A. Introduction

B. Production of Publications and Aids

C. Training Excension Course Lessons

0. Review

19. Similators/STES Soltiars

A. Fatroduction

B. Flight Signitures To perpose

C. Cost Effectiveness Training Value

D. Training Considerations

E. Sample Similator Indialog Plan

m, ROWA lemining 20 c. mart

TRAINING WORKSHOP TWO

- I. Aviator Training
 - A. Initial Entry Rolary Wing

B. Qualification Tracks

C. Temselian Troblic;

II. Enlisted Training

A. Directife () the set Mentur Testering

and a sound sound of the sound

B. Armament Repair Training

C. Aviation Related Training of Non-aviation Personnel

TEL. On the Job Training-Indusion-Incompany tillry

A. Cose

B. Legal Aspeces

C. Standardization Oriceria

TRAINING WORKSHOP THREE

- I. Tectical Training
 - A. Relationship of Training, Safety, and Standardization

B. Terrain Flight

C. Might Piping

n. Tecrical Instrument Flight

S. H. Alos Saltes

.

F. Since inv

.

17.

G. Gunnary Training

H. Airspace Management

I. Ale to Ale Combat

3. Aircraft Survivability Equipment

K. Training in US Army Artacion School

L. Summary

II. Aviation Safaty Accident Prevention

A. Growth of Aviation

B. Purpose of Accident Prevencion

C. Control Accident Rate

- D Addidant Experience in the US Pray

 2. Pecia mr Crise Factors
- F. Safery 'ctitude
- G. Unur die the Goal's of a ROW Aviation Safety Program
- H. Function of Aculians Prevention Program
- T. Comment
- J. Staff
- K. Accident Prevention Plan

- L. Education
- M. Tavescigation and Analysis
- N. Research and Development
- 0. Awards
- P. Aviation Safety Training
- Q. Duties
- R. Summary

III. Aviation Standardization

- A. Gial Of Standardigation
- B. Instructor Palme & Allena Especience
- G. Meel for Aviation Standardisation
- D. Formal Organization of Standardization Program

E. Subordinate Standardization Boards

- F. Instructor Pilot Selection Criteria
- G. Duties and Responsibilities of Standardization

Instructor Pilots

H. Duties and Responsibilities of Instructor Pilots

L. Duties and Rosponsibilities of Eastkument Flight Exeminers

I. Annual Regulements or Aviators

K. Summary

IV. Aviation Training in Service Schools

A. Furpose

8. Noed

C. Related Training for all Branches

D. Training to the Need

E. Learn Skills Appropriate to Sank

F. Learn Skills Appropriate to Branch

G. Training Realism

H. Aviation Granch Career Training

1. Summary

REPUBLIG OF AUREA



ARMY AVIATION
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PREFACE

offers no information other than what you put into it. The outline of this booklet is the same as the presentation. The Briefing Officer may refer to a previously covered point, by following the outline you can quickly locate his reference.

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CONTENTS

	·			PAGE
Prefac				Ĺ
Logisi	TICS WORKSHOP ONE	•		
I.	Introduction			1
.II.	Aviation Logistiës Overvies	٠,		ï
ēii.	Inree Level Eviation Maintenance	Y		2
. TV.	Aircraft Maintenance Quality Control Program			2
У.	Aviation Ground Support Equipment	-		3
VI.	Phased Maintenance			. 3
VII.	Army Oil Analysis Program			4
VILT.	Conclusion of Workshop			4
TOGIS	TICS WORKSHOP TWO			
ī.	Forward Arming and Refueling Point (FARP)		•	5
ŤΙ.	Training Development Philosophy	•		5 .
`tıı.	Aviation Maintenance Officer and			
•	Rapair Technician Training			5

CONTENTS

	<i>r</i> -	•
		PAGE
ÍV.	Aircraft Repair Supervisor and	
	Repair Technician Training	6
V.	Dépot Maintenance vs Contract/Organic	. 6
VI.	On Condition Maintenance/Analytic Condition Evaluation	7
ŶII.	Depot Supply	. 7
		•
VIII.	Intensive Management System	7
IX.	Conclusion of Workshop	8
,		٠
Logisi	TICS WORKSHOP THREE	
		•
I.	Aircraft Systems Managament	8
II.	Worldwide Aviation Logistics Conference	ģ
~~~		•
LLI.	Aircraft Flying Hour Program	9
<b>T</b> ***	Cartinal desire Constantination and Tomorrowshilds	0
7.V.	Rationalization, Standardization, and Interoperability	
. 17	Transfer Program	10
٧.	rianstei rrogram	
٧Ŧ	Impact of OJT on OS Army units	10
¥ .3. s	Sampard at our or living wifes	
VII.	Workshop Conclusion	10
	• The state of the	

## LOGISTICS WORKSHOP ONE

I. Incroduction

II. Aviation Logistics Overview

. Pro English Afficiation Main Femance

IV. Mirchaft Maintenance Quality Control Program

V. Aviation Ground Support Equipment

VI. Phased Maintenance

VI: Year Oli analysis Program

Vila. Conclusion of Workshop

#### LOGISTICS CORESPOP TWO

I. Forward Woring and Refueling Point (FARP)

II. Training Development Philosophy

111. avistion Maintenance Officer and Repair Technicism Training

IV. Airc off, Repair a psychologiand Technical Lascotton training

V. Depot Maintenance vs Contract/Organic

VI. On Condition Maintenance Analysis Condition Evaluation

THE PROPERTY OF THE PROPERTY O

VII. Depot Supply

VIII. Intensive boungement System

Is. Conclusion of workshop

LOGISTICS WORKSHOP TEAFE

L. Africaft ayatem dianger-ac

it. Worldstde Astallou toxis les Confessors

tif. Aircraft flying your Rogram

IV. Rationalization, Standardiration, and Interoperability

V. Irmuica Progra

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Mr. Appert of Man Pr Acar agter

Vil. Workshop Conclusion

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INCLOSURES 20 - 22

COMPLETE SCRIPT AND VUGRAPH TRANSPARANCIES,
FOR MANAGEMENT, TRAINING AND LOGISTICS WORKSHOPS ARE SEPARATE FROM THIS BOOK.

#### SUMMARY OF RECOMMENDATIONS PRESENTED TO GENERAL VESSEY

The following conclusions represent the highlights of the week of workshops and a starting point for ROKA to begin the process of upgrading their aviation programs.

- A. A ROKA or combined ROKA/US briefing team should be established to inform the major ROK Army commands of the latest aviation employment principles. This team could also present an overview of ROKA Aviation programs to staff officers to keep them abreast of the latest aviation policies and programs.
- B. The Aircrew Training Manual (ATM) is a newly adopted concept in individual aviator training. It facilitates quantifying the individual training requirements and standardization. A similar manual would provide the foundation to expand and improve an active aviation standardization program within ROKA. US Army Aviation has found the ATM to be a valuable guide for commanders, staff and individuals alike.
- C. The Forward Arming and Refueling Point (FARP) is a valuable concept that should be further explored by ROKA. It provides for savings in time and resources by providing "one stop" service to aricraft in support of combat operations.
- D. Consolidation of aviation crew chief and mechanics training at the ROKA Transportation School may prove advantageous. Besides the enhancement in standardization of training, it would also reduce the much needed training facilities requirements at the ROKA Aviation

School.

- E. The ROKA Aviation Seminar succeeded in temporarily bridging the differences between the ROKA Aviation and Transportation Branches. Due to the nature of the ROK Army organization, top level emphasis will be necessary to bring these factions together on a permanent basis. The Aviation and Transportation branches must be able to work together to provide total system support for Army Aviation. One person is needed at the top to pull together the two sides of this problem.
- F. The use of civilian flight instructors is an area with promising future within ROKA. They have had much success using civilian personnel in aviation maintenance organizations. Because of a lack of qualified civilians, it would involve considerable selection and training of personnel but longer utilization would help to amortize the cost. Additionally, fewer military instructor pilots would be required for school training thus making them available for use in the aviation units.
- G. ROKA needs to closely examine it s present four (4) level aviation maintenance structure. A three (3) level or even two (2) level structure may be more in line with efficient and responsive aircraft maintenance and repair.
- H. As a part of OJT/OJE/INFUSION discussions, training of Air Traffic Control (ATC) personnel was emphasized. This has a direct bearing on the aviation programs for ROKA. Because of the complex training requirements and high English language skill level require,

this program needs immediate attention. The English language training may be the key step affecting the rate and quality of training. Individuals need to be identified for OJT/OJE and intensive language training begun.

- I. Training developments within the ROK Army is in the neophyte stages. The Instructional Systems Development Process (ISD) is needed to provide a guide to training developments. Each major branch within ROKA could benefit from having a department specifically for developing, coordinating and evaluating training. To insure continuity between the branches, ROK Army staff supervision would be desirable.
- J. Along with growth in training developments, publications must be provided for. A centralized publications agency could supervise, coordinate and monitor both internal and external (FMS) publication procurement for the training developers and units.
- K. The role of the Pathfinder is not fully exploited within ROKA. Pathfinders could be invaluable to ROK Army Ground units especially considering the lack of understanding and utilization of aviation assets by the supported units. They could provide the aviation expertise needed on the ground during night and limited visibility airmobile operations.
- L. Aviation standardization and accident prevention needs a great deal of attention within ROKA. Their present programs are under-staffed and decentralized. In order to have an effective and active standardization and accident prevention program, ROKA must establish a workable program now that is capable of expanding with the increase in aircraft and pilots.

- M. With the increased role of aviation in the ROK Army, aviation and supported unit commanders must be capable of task organizing for combat. Commanders and staff officers at all levels need to know and practice tailoring the peacetime aviation organizations for effective application during combat. Aviation liaison officers are one important means to advise the supported unit on aviation utilization and task organization.
- N. The Republic of Korea Army is at a starting point now with it's aviation. Within the next decade, aviation will undergo massive changes requiring much coordination. I recommend that ROKA conduct an Annual Aviation Program Review to identify progress and chart their objectives for the future. This review requires guidance and emphasis from the highest levels of ROKA and Combined Forces Command.

#### ROKA STUDY GROUP

### Manpower expenditure

8 January 1979 to estimated completion 27 April 1979

8672 Manhours

1084 Man days

4.32 Man years

1-1905

LESSONS LEARNED: MAJ Shields notes (After Action Report)

- 1. Format. The format for the ROKA aviation study group was decided on prior to forming the ad hoc study group. This significantly eased the action officer's task of organizing material for presentation.
- 2. Lack of information on ROKA systems and procedures. This lack of knowledge made it difficult in determing how U. S. systems could interface with ROK systems. (i.e. logistics, administration, operations, etc.) A dedicated effort should be made to acquire this information before writing begins.
- 3. <u>Cultural differences</u>. Initially the lack of understanding cultural differences caused some delays when it became obvious that U. S. customs and procedures would be unworkable in the Korean Army structure. In-country point of contact should provide guidance in this area.
- 4. When using a liaison officer from a foreign country action must be initiated early on to identify the individual and have all necessary diplomatic and security clearances validated through ACSI.
- 5. Action Officers had a problem locating source documents and other supporting information. There was a reluctance to use existing material. Emphasis must be placed on purposes of presentation. Inexperienced action officers are attuned to staff study type preparation rather than using existing information to prepare detailed information briefings. This is overcome as experience is gained; however, it caused initial delays.

1500

6. Work space was at a premium, all action officers and clerical support were in an open bay. Cubicles, at least for workshop groups, would have provided sense of privacy if more suitable space were not available.

7. Responsible agency within Department of the Army or a MACOM should be identified early so that the funding responsibility will be established in the process. This will allow the program to progress with assurance and responsibility will be fixed.

- 8. Available clerical support and Mag-card typewriters are a necessity.

  During surge periods the one available Mag-card typewriter and operator
  was not sufficient to handle the workload.
- 9. Type size should be identified for the final version of each document so it can be properly entered on mag-cards. This will save many hours of retyping just for proper size.
- 10. If possible, a foreign language typewriter and qualified typist should be available.
- 11 Material requiring translation should be prepared in final draft before the liaison officer arrives so he will not be delayed.
- 12. The availability of a coordinator in the host country was a necessity. An advance party familiar with past and on-going actions within the study group should be sent two to three weeks before the seminar team to coordinate last minute preparations.

- 13. Action officers should write for translation. Compound, complex sentences should be avoided. Colloquial sayings and acronyms make literal translation difficult or impossible.
- 14. A full time representative to each workshop should be on site.

  This will assist to standardize presentations and keep the director apprised of workshop progress.
- 15. For extended projects, action must be taken to insure those involved receive OER;s or letter reports for the term of the project.
- 16. Requirements for classified document containers must be established early and actions taken to insure they are available when the group is assembled.
- 17. Overseas mail requires control. Material must be inventoried and containers numbered. Delay in mailing time must be considered when time is limited. Shortages cannot be properly determined unless control is established.

## REPUBLIC OF MOREA



# ARMY AVIATION MANAGEMENT WORKSHOP

APRIL

1979

#### MANAGEMENT ISSUE PAPERS 관리 문제 지

#### TABLE OF CONTENTS

MANAGEMENT ISSUE 관리 문제	PAGE
WORKSHOP ONE: GENERAL MANAGEMENT 연구집회 1: 일반 관리	
THE COMBINED ARMS TEAM 계병 연합 전투부대	1-1
COMBAT SERVICE SUPPORT 전투 근무 지원	1-12
TOE 79 VERSUS 82 79년대 82년 편씨 장비표	1-24
EQUIPMENT AND FACILITIES 장비와 시설	1-37
TOTAL SYSTEMS INTEGRATION 전체 시스템 통합	1-48
WORKSHOP TWO: MANAGEMENT OPPORTUNITIES 연구집의 2: 관리 의 기회	
MAXIMUM UTILIZATION OF AVIATION TRAINING FACILITIES AND INSTRUCTORS 항공 훈련 시설 및 고관의 최대 활용	1-74
USE OF CIVILIAN FLIGHT INSTRUCTORS TO FREE MILITARY PILOTS 군 조종사 부담을 덜어주는 민간인 비행고관의 활용	1-82
US ARMY THREE LEVEL MAINTENANCE SYSTEM VERSUS FOUR LEVEL 미 육군 3단계 정비체제 대 한국군 4단계 정비 체제	1-87
CONTRACT MAINTENANCE AT DEPOT LEVEL 창급 계약 정비	1-96
AIRSPACE MANAGEMENT 공중 공간 관리	1-102

#### TABLE OF CONTENTS

MANAGEMENT ISSUE 관리 문 제	PAGE
WORKSHOP THREE: OTHER MANAGEMENT CONSIDERATIONS 연구 강력 3: 기타 관리 고리 사항	
AVIATOR RECRUITMENT 항공장교 양성	1-115
LATERAL COORDINATION 즉방 참조	1-119
REVIEW AND CONCLUSION 검토 및 견호	1-127

MANAGEMENT WORKSHOP ONE 관미 연구 집회 1

William Shirt with "

General Management 일반 관리 ISSUE: THE COMBINED ARMS TEAM. 문제: 제범 연합 전투부대

INTRODUCTION

소 개

Warfare has changed in the past 40 years. The range, accuracy, and 전쟁 양상이 과기40년간 변화하였다. 현대 전자포역

lethality of the modern tank gun make it at least five times as effective 사거리, 정확성 및 치사율이, 1945년도 전하포에 비해 적인도 5배는

as the tank gun of 1945. The antitank guided missile (ATGM) has appeared 터 효과적이다. 그리고 상당수의 대전차 유도탈(ATGM)이

on the battlefield in significant numbers; it is accurate and deadly. 전투에 등장했으며, 이외 명중 &은 정확하며 치명적이다.

Today's artillery ammunition is 5 to 10 times more lethal than that of 오늘날의 포병탄약은 불과 및년전의 포탄에 비해 5배 내지

just a few years ago. Highly accurate, long-range, mobile air defense 10배의 치사율을 가지고 있다. 또한 전투지역 상공을 제압

gun and missile systems have also appeared in great numbers to dominate 하기위해, 상당수의 고도의 정확성과 긴 사거비의 기통성있는 항공포와

the air above the battlefield. These air defense weapons are at least 유도단 체계들이 통장하였다. 이러한 방교 부기 체계는

twice as effective as their predecessors. 1/ 과거 무기 체계에비해 적어도 2배는 더 효과적이다.

II. PURPOSE

목 적

This issue will discuss the lessons learned and what is to be derived 이기에서는 경험에서 얻은교문과 제병 연합 전투부터 개입을

from application of the Combined Arms Team concept. 적용함으로서 얻는것이 부엇인가를 연구코저한다.

III. DISCUSSION

도의 내용

A. Background:

배겨

1. Historically, man has attempted to enhance his combat effectiveness 역사적으로 인간은, 장비나 상상적인 전소을 도입하여

and to achieve tactical advantage over his enemy through innovations in 자기의 전투효과를 향상시키고 적보다 전술적 위세를 차지

equipment or imaginative tactics. History indicates his success in these 하는데 노력해왔다. 역사는 인간이 이러한 노력에서 성공하였음듩

efforts. Great military leaders such as Lee Sun Shin have had the unique 말해주고있다. 이순신과 같은 위대한 군사 지도자도, 가용한

ability to take the resources available and use them to gain tactical 자연을 활용, 이탈 전술적 우세 확보에 이용합을 아는 독특한 능력을 가지고 superiority. We continue this same effort today. 있었다. 우리도 오늘날 이와 독간은 노력을 계속하고 있는것이다.

2. In the early 1950's, the Korean War provided the first combat 1950년대 초, 한국전쟁에서 처음으로 미요고 헬기에 때한

testing of United States Army helicopter units. The impressive 전투시험을 실시하였다. 부상자 후송 헬기의 인명 구조

lifesaving record of the medical evacuation helicopters, as they rescued 기록은 주목할만한것으로서, 험준한 한국 산악의 능선으로부 띄의 논상병 wounded from among the rugged Korean ridgelines, bolstered the morale 구조는, 보병부대의 사기를 듣구 어주었으며, OH-13 헬기는 of the foot-soldier and earned for the OH-13 its nickname of "Korean "한국의 천사"라는 별명을 받기까지 하였다.

Angel." The potential of the helicopter was ready to appear. 이제 헤기의 잠재능력이 나바上때가 온거이다.

3. With the introduction of the cargo and the utility type 한국 전쟁은 학교수는 및 다목적형의 웨기 등장과함께

helicopters after the Korean War, the United States Army planners 미육근의 기획 수립자들은 지상부터 지휘관의 학력및 기동계획의

developed doctrine and techniques to employ increasingly more capable 일부로써 더욱 능력이 다양한 고정의 및 최진의 항공기와 이용에 fixed— and rotary—wing aircraft as part of the ground commander's plan 필요한 고리와 기술을 개발하였다.

of fire and maneuver. Specially formed aviation units were equipped, 따라서, 특별히 편성된 항공대를 장비하고, 병명을 배치하며

manned, and tested for mid-intensity combat. Aviation training was 과이 지엄하지않은 중간정도의 전투에다 시험해보았다.

focused on mid-intensity combat as it was then visualized. The new 항공 운면은, 당시 상상에 외한것이었기때문에 전투의 시험도가 중간정도에다 term "nap-of-the-earth flight" was made; however, in the combat sub-두어 실시하였다. 그리고 그후 전투에서 "nap-of-the-earth flight"란

sequently encountered, the enemy's air defense capability did not force 단어가 생기긴했었으나 그런 전술을 실전에 옮길만큼 적의 방공 농덕이 us to practice that tactic.

강력하지는 않았다.

4. Our joint experience in early Vietnam allowed us to lay aside 초기 일납전에서의 공동 경험을 통해 우리는 새도

some of the newly evaluated aviation doctrine in favor of techniques that 실시한 평가를 통해 얻은 항공 고리를 제치놓고 직의 정교하시못한 장비에 were more suitable against the enemy's unsophisticated equipment. 보다 더 직합한기술을 도입, 사용할수가 있었다.

The biggest threat was from enemy small arms and automatic weapons. 가장 큰 위협은 적의 소화기와 작동화기었었다.

Flights at altitudes slightly above the effective range of small arms 그러나 이러한 위협은 소화기 사격의 유효 사거리보다 약간 높은 고도에서 fire eased this threat. 비행함으로서 해결할수가 있었다.

5. However, the picture changed toward the end of that conflict. 그러나, 전투의 양상은 전투의중말 가까이에 가서 변화하였다.

Two historical examples of airmobile warfare in a high threat environment 우리는 얼남전에서 고도의 위험이 수반된 상황하에서 공중 기동작진을 came from the Vietnam War. The Cambodian Operation 49 April -- 20 June 실시한 역사적 실전경험을 가지고있다. 즉, 함보디아에 대해 1 개사단 규모의 1970, when a division size airmobile assault was made into Cambodia and 공중 기동공세를 강행했던 1970.4.29일부터 6.20까지의 함보디아 작전과

an assault into Laos in the spring of 1971 called Lam Son 719. 2/ 라스 719라 불리우는 1971년 봄에 감행된 타오스 공세이다.

- 6. The helicopter proved remarkably strong and survivable in the 합기는 함은 779의 적 방공망에서 늘박을 정도로 강력하고 생존력이 hostile air defense environment of Lam Son 719 and aided the ground 있음이 입증되었으며, 지상부대 지휘관의 임무수행을 commander in the accomplishment of his mission.
  지원하였다.
  - 7. In October 1973, a short intense war in the Middle East demon-1973년 10일, 지엄한 단기 중동전에서 우리는 어마어마한

strated a formidable air defense threat that emphatically confirmed the 적의 방공망을 심급했으며, 이는 윷남전에서 개발한 지형 비행

terrain flying doctrine development in Vietnam. Even though neither side 고리를 재확인하였다. 비록 쌍방이 헬기를 때규모로

used the helicopter extensively, this war provided a vivid picture of the 사용하지는 않았으나, 이 전쟁은장자 미 육군 항공이 좌우하게달

sophisticated threat weapon environment within which Army aircraft can 위협적인 정밀 무기을 우리에게 생생하게 보여주었다.

expect to operate in the future. In that conflict, Israeli training 이 전투에서 이스라엘은 훈련의 덕을 크게 보았다.

more than paid for itself. Even though both sides had fine equipment, 양쪽 모두 훌륭한 장비를 가지고있었으나 잘 운련된 이스라엘군이

the better trained Israeli soldiers held an edge. Once the numerically 우세하였다. 일단 수적으로 열세한 이스타엘군이

inferior Israeli forces were fully mobilized and committed, their well-동원을 완료하고 전투에 누입되자, 이들의 잘 훈련된 요원과 trained personnel and combined arms tactics paid off handsomely. 3/ 제병 연합전술은 아주 좋은 급과를 나타냈다.

- B. <u>Lessons Learned</u>: 얻은 고문
- 1. In order to fight and win on the modern battlefield, it is 현대전에서 싸워 승리하기위해서는

necessary to move rapidly to concentrate forces. Also, it is necessary 병력을 집중시키기위해 신속히 이동해야한다. 또한, 유니한

to fight using terrain, overwatch, and suppression in such a way that 손실 교환율을 확보할수있도록 지형 약진이동및 제압등을

favorable exchange ratios are achieved. The history of armored battles 활용해야한다. 기갑전의 역사들보면 이러한 것들을 능히

tells us that this can be done; but in order to do it, the commander 합수있다고는하나, 그렇게하기 위해서는 부대 지휘관은

must maximize his own weapons capabilities while at the same time 자신이 보유하고있는 무기의 능력을 극대화 시킴과동시에 적에대한

minimizing their vulnerability to the enemy. 4/ 취약성을 최소한도로 해야한다.

2. A trend has developed toward mechanization of Armies. Combat 근의 기계확 경향이 대두되었다. 오늘날 부대

mobility now allows commanders to sweep the flanks and penetrate the 지휘관은 전부 기동력으로 축방을 소방하고, 적외 지원부대를 돌파하여 supporting elements of the enemy, to rapidly reinforce, and to employ 우근을 신속히 증원하며, 수색부대를 이용 적외 취약점을

reconnaissance elements to find the enemy's weak points. Once the 찾아낼수있게 되었다. 일단 적의 취약점이 발견되면

enemy's weak points are located, commanders can use mobile forces to 부대 지휘관은 기동부대를 사용, 우세한 전투력을 집중시킬수가 concentrate superior combat power. 5/ 있다.

3. The helicopter has added a new dimension to modern battlefield 헬기는 현대전에서 기통력에 새로운 차원을 추가하였다.

mobility. When combined with improved, faster ground vehicles, helicopters 개량되고 보다 빠른 지상작량과 합했을때, 헬기논

enable commanders to concentrate superior combat power at the critical 부대 지휘관으로 하여금 긴급한 시기와 장소에 우세한 전투력을 time and place. 6/ 집중시킬수 있도록 해준다. 4. Thus the changes in battle in the last 40 years have taught us 따라서 과거 40년간의 전투 에서의 변화는 우리들에게

that the modern commander must be able to mobilize his resources and to 현대 지리관은 자기의 작업을 동원시킬수있어야하며, 도

use al available firepower, quickly. This lesson has lead us to the 가능한 모든화력을신속이 이용할수 있어야함을 우리에게 가느저주었다.

conclusion that ground and air assets must be integrated into a well 이익한 교훈은, 우리에게 지상및 공중 무기들을 잘 운련된 제병 연간전투

trained, full time part of the Combined Arms force. When this happens, 보대에다 통합해야한다는 결론을 주었다. 이와같이 했을때

the effectiveness of that force is greater than the sum of it's elements. 건 그러한 보내의 효과는 논대전부들 합한것보다 없는 크다.

- C. For the Future:
- 1. The US Army may find itself in any of a variety of places and 미 육군은 장학 와르소동맹국의 고도도 현대화된 기계화

situations, fighting opponents which could vary from the highly modern 부대로부터 멀리 지개발 지역의 경미한 비 정규부대에 이르는 다양한

mechanized forces of the Warsaw Pact to light, irregular units in a 적과 서로 상이한 장소와 상황하에서 전투들 하게되겠어다. remote part of the less developed world.

2. When we analyze the threat to our forces in the future we look 우리의 장치의 위험을 분석합때면 우리는 구락파에서

to a conflict in Europe. We expect to fight battles at the end of long, 전투를 연상하게된다. 우리는 멀고, 값비싸고, 취약성을 가진

expensive, vulnerable, lines of communications. Forward deployed forces, 병참선을 가지고 전투를 마게될것이다. 따다서 전방 지역

and those reinforcements immediately available, must therefore be 배치 부대와 독가 가용한 등문부터는 수로 그들 역보유하고 있는

prepared to accomplish their missions largely with the resources on 자연으로 작전임무료 수정함수 있도도 준비하여한다.

hand. They must anticipate combat against forces with modern weapons, 또한 이들 부대는, 현대무기로 장비된 보다 많은 병력과

greater numbers, and nearby supply sources. Winning will rest pre-가까운 보급원을 보유한 그런 적과 전투를 하게된다는것을 알아야한다.

dominately with commanders of engaged forces. The mission, in short, 전부의 승리는 주도 고전부대 지휘관에게달러있다. 다시 말해서

is to prepare to fight outnumbered, and to win. 8/ The value of this 임무란 수적으로 우세한적과 싸워 승리할때세를 갖추어야한다는 것이다.

lesson to ROKA is commanders at all levels must be challenged to expect 이러한 고흔으로부터 한국군이 얼울수 있는 것이란 모든 수순의 부대

and invite decisive engagements on an independent basis. They must be 지휘관으로 하여금, 결정적인 교전을 단독으로 실시해야하며, 또 능히 실시할수

prepared to fight the first battle whenever and wherever it takes place, 있도록 하는것이다. 이들은 그들의 최초의 전부를 할시라도 어느곳에서든지 and to win that battle.

할수있으며 또 그 전투에서 승리할 태세가 되었어야한다.

3. To win, soldiers will need the best weapons that industry and 전부에서 승리하기 위해서는 병사는 공업과 과학기술이 제공될수

technology can provide. But weapons, no matter how powerful, are 있는 최선의 무기를 필요로한다. 그러나 무기가 제아귀리 감력하다고

ineffective in the hands of ill-trained, unsure operators. Overall 할지라도 훈련되어있지 않은 자신이 없는 사람의 손에서는 무력한것이다.

battlefield effectiveness depends on weapons capability, the proficiency 따라서, 전체적인 전투지구에서의 효과는 무기의 능력, 무기를 다루는 팀의

of teams or crews, and the tactics or techniques of the commander. Thus, 슼답정도 및 지휘관의 전술 혹은 기술에 작위된다. 고로,

the US Army, just as you, is obtaining powerful weapons and must develop 어러분과 마찬가지로 미육군도 현재 강력한 무기를 보급받고있으며, 이를 다루는

fully the proficiency of the men who man them, and train leaders capable 사람의 기술을 충분히 발전시켜야하면 지도자와 조원들을 훈련시켜 무기를 잘 of employing weapons and crews to best effect. 9/

or employing weapons and crews to best effect.— 다블수있도록하고 또 최대의 효과질얻는데 전력을 하고있읍니다. 4. To do this, training standards and techniques must be closely 기울위에, 윤인의 기순과 기술이 전투지구의 연쇄가 가능한

matched to the realities of the battlefield. Thus every unit commander 일자하이라다. 고도 또는 부터지역한 부하장병이 나라

is responsible for the progressive professional development of every 정신적 전문 기술계발의 작업이 있다.

soldier in his command.

combined arms. Wherever possible, commanders should press beyond ARTEP 두 이야한다. 가능하다면 연지도의 시작권은 ARTEP (육급 운연닷생가기록) standards. Consistent with a judicious regard for safety, training must 기존을 초과 실시막이라다. 안전 문제에 지상이 없는만, 운전은 simulate expected battlefield conditions. Training for battle demands 에상되는 전부지역상황을 가상 실시력기간다. 전부운전은 효과적인 building affective combined arms towards.

building effective combined arms teamwork. 10/ 제명 연합부대의 합통기로 기르는데 있다.

D. What is the Commined Arms Team? The Combined Arms Team is the 데병 연합함이라 무엇인가? 데병 연합함이라, 육급 항공기는 integration of Army aviation assets into the cask organization and 독수 임무부터 변성과 지상부터 지역관의 기능계획이다 농합 운영하는 scheme of maneuver of the ground commander. When aviation assets are 것을 말한다. 항공기를 전투력으로 간투한다면, 이를 항공기는 나음과 considered as combat power they will: 같은 임무를 수행할수 있을것이다.

1. Augment the capability of the Ground Force Commander to conduct 기상근 지역관으로 하여급 신속하고 기속적인 기상 전투를 수 등을 prompt and sustained land combat. 농력을 보강하는다.

2. Provide the commander with the mobility, firepower, and staying 지뷔과에게 최초의 전투에서 송리하는데 필요한 기통력, 확력 및

power needed to win the first battle. 지구 역으 지구 해조다.

> 3. Allow the Ground Force Commander to decisively employ sufficient 지상근 지역관으로 하여글 원하는 시기와 장소에서 전부의 방향을

combat resources to determine the course of battle at a time and place 판단하기위해 충분한 전투자원을 결정적으로 기용할수 있도록 of his choosing. 해진다.

E. Summary:

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To summarize this analysis, ROKA faces a sophisticated enemy, 이상 본석한것을 교약하면, 한국군은 현재 지상과 공중 예시

posing a threat on the ground and in the air. Any war in the future 의원이되는 정교한 직과 대착동엔 있다. 미래의 전쟁은 모두

will depend on rapid application of combat power and the ability to 전투력의 신속한 사용과, 것의 약장을 기용하는 능력이하네

exploit enemy weaknesses. A combined efform of ground and air 좌위된다. 지상 및 공중 자원의 법동노력는 기작값은

resources can assist the ground commander in these missions. 일무수행에 있어 지상부터 직략받을지원해준다.

IV. CONCLUSION

급 론

To be determined by participants in the Management Workshop. 본 과이 실무연구반에 참가한 사람이 내린다.

Conclusions should be based upon the working presentation and 결론은, 실무설경과 토외결과토루터 내려져야 한다.

discussion.

#### V. RECOMMENDATIONS

건 외

To be determined by participants in the Management Workshop. 라마 실무연구반에 참가간 사람이 내피야 한다.

Recommendations should support the conclusions. 건의사항은 겉돈을 딪받침에야 한다.

#### COMBINED ARMS TEAM REFERENCES 제변연합 팀 관계 참고시적

- 1. FM 17-47, pg 1-1, 1-2, 1-4.
- 2. FM 90-1, pg 1-2.
- 3. <u>Ibid</u>., pg 1-3.
- 4. FM 17-47, pg 1-2.
- 5. <u>Ibid</u>., pg 1-4.
- 6. <u>Ibid.</u>, pg 1-4.
- 7. <u>Op. Cit.</u>, Note 2, pg 3-2.
- 8. FM 100-5, pg 1-2.
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- 11. ARTEP 17-205, Air Cavalry Squadron, May 76, pg 10-3.

<u>ISSUE</u>: <u>COMBAT SERVICE SUPPORT</u>. 논제: 전투 근무지원

INTRODUCTION

ェ, 개론

What is Combat Service Support?

전투 근무 지원이라 무엇인가?

As commanders, we are not interested in logistics systems by them-지크라스크시 우리는 군수 제도 자체이 관심이 있는것은 selves. We are interested in operating weapon systems on the battlefield. 아니다. 우리의 과소사는 전자에서의 무기체계 문명이것이다. This means that weapon systems must be supplied with fuel and ammunition, 이는 다시말 해서 무기체계에 필요한 연군병 돈 약의 발급이 and repaired when damaged or otherwise inoperable. The measure of 이루지아 하고 과존 또는 기타이큐스 가능이 않을 때 수기될수 있다는 effectiveness for combat service support is the percentage of weapon 하을 의민한다. 다구나는 건도 근무 지원의 호과를 즐겁게하는 systems which are fully operable on the battlefield. There is no other 전문 건강에서 나는 가능한 옷는 무기체계의 비율인건이모를 그러는 다라면 가능한 있는 무기체계의 비율인건이모를 그러는 그러는 다른 있는 무기체계의 비율인건이모를 가는 이 한다는 기술을 하는 것을 하는 등이 를 field artillery, helicopters, etc.). Therefore, he must, at the same 지를 하는 것이나 바람이라는 다나에 그는 그의 전투 자원이 다른 지원에 다른, concentrate his combat service support resources to:

필요한 가녕 자원을

Man the systems
무기는 고착한수 있게는 카더
Resupply the systems
スリ 보급이 가능 트립 さい
Repair the systems
アストリ 大会人 수기 가능 트립 212 まり・キュナーナー

Combat service support is an element of combat power.

전투 근무 지원은 전투23의 한 요소이다 지회 manipulates his resources to attain a favorable balance of power by 지원에 필요한 긴급사람을 직제통제하고 수선숙기를 결정 directly controlling critical elements and establishing priorities for 하는 3년 전투적의 수의를 크는 한 가겠는 가를 과었는 요리카게되다. support. He concentrates supplies and support, just as he concentrates

승고는 무기를 지금 카드것과 타찬가지로 중요한 시간성 weapons — at the critical places and times. To do this, he must know: 자소에 보급 및 자원을 진출하는 것이다. 이2렇게 할거면 지휘만은 'WHAT HE HAS (Resource identification and quantity)

가진것이 무엇인가 (자원 화인및 42분)
WHERE IT IS (Availability -- immediate or near future)

orcin のなり (オサイマー ひはなり ナかけないり)
ITS CONDITION (Readiness)」

그 상태는 이때가 (준비대세) 를 빨나야 한다.

The Colonels influence the battle by maneuvering the combat service 대경급 들은 그들에게 화당된 전투근무자인 가능한 자연을 support resources assigned to them. They keep support units close to

요기 같으면서 전투이 정상을 되었다. 그들은 지난 가고 있는 the weapon systems they support, commensurate with the risk involved. 무기체계에 가깝게 지원부대를 위치 시키며 그 근건도는 위치들이 They deliver supplies tactically. They plan the use of allocated 상등하게된다. 그들은 전숙적으로 보급들을 전달하다 기통계획이 transportation to fit the scheme of maneuver.

방계급 확성된 수용수단을 사용 함수 있으로 기계가 한다.
The Captains apply combat service support troops and resources to

대위급 강고들은 전투근투지원 병경을 실제 긴급정비가 the actual maintenance of critical weapon systems, and to the provision 밀보간 무기취계 전비에 투입하며 연호, 단백 및 식품을 필요한 of fuel, ammunition and food where it is needed. 것이 보내 구게 된다.

Commanders must think in terms of their weapon systems support, not

지희관은 일반적인 급수 지원이 아닌 회라 무기 레게이 in terms of generalized logistic support. Logisticians must insure that 지커리 이 라는 관심 이 지 관심을 가게 하는 한다. 근무근무자들은 commanders have effective operating weapon systems. 2 지희만들이 호과정으로 가용되는 무기체계를 감상 갖고를 확인해야 된다. 工、号勾

Our purpose will be to discuss Combat Service Support as it relates 우리의 목적은 대한 만국 중군 항공과 과전인 전투교육 지원이 대개 들의 카리는 것이다. III. DISCUSSION

A. Management of aviation combat resources -- personnel, material, 가. 항공 전투 자원 의 관리 - 글 이번 출자비 과리 및 and the logistics required to support them — has always been complex. 이을 지원 하기이라 급수관리 2는 문제는 항상 복잡한 것이었다.
Commanders will always be faced with the resource constraints which force 지키관들은 항상 자원상의 제학이라고 자과 부딪치게 되는 very tough tactical decisions on their part. How effectively a commander 이는 어려는 전술적 건설을 강한하게 된다. 얼마나 할아먹는 지형이라이 manages commodities often determines the outcome of battle. Resource 물자를 관리하나 하는데이 전투리 열리 전경 첫분에가 말다. management will have increased significance on the battlefield of the next 아는 그 기 지기 에서는 지난 라고 라는 기를 가는 이 글 다른 어머니 것이다. We know the overwhelming importance of winning the first battle of

이러한 전쟁이 있어서의 최초 전투를 승리를 이끈다는것이 that war because we realize the consequences if we lose. We know also 얼마나 경반한가는 파내시의 건과를 알기 때문에 자리하다. that in all probability that the United States will right its next war 우리가 또한 아는 것은 장차의 전쟁이 있더서 미국은

outnumbered against an enemy which will be at least equal in technology 기全时间 千江北 对时至等三分时 安对公司是 ティーナン マント 外产州到汉·12年 7届olch

Aviation units must be prepared to conduct around-the-clock tactical

강공부어들은 교사시간 전호 작신을 수행 2수 있도록 operations. Continuous combat operations have implications affecting every Fulsion of an aviation unit and is cause for reappraisal of management 구네되야 한다. 당황은 비치며 과리기능의 제 당가는 요하는 웃신아 된다. functions. The concepts used for combat in Vietnam are no longer viable.

우런 보이서 서부된 전호개념은 데이상 쓸모가 있다.
The first battle cannot be won by imposing school book style restrictions 최초의 전투를 승리로 이끌기 의해서는 전투자자이 있어서)
on combat operations, nor by committing standard packages of scouts, guns, 교과서적인 제한을 가간다던가 전혀적 정치 변경, 화경 또는 and lift aircraft. Every commander must establish realistic procedures, 항공소인을 전용해서는 양되며 지기만은 모습기 자기부대의 methods, policies, and practices for his type unit, mission, and the 영지라 일부, 고리고 주이진 전통 머진이 맞는 한성과 절차, 바법, particular tactical situation. 3/

收益是今日外卫 经对外 新冲电 社什.

Proper management of resources has implications affecting the amount

지원의 작가한 와리는 정보건 전투경, 필요한 자꾸전경, of combat power to apply, staying power required, and readiness objectives 생회카야한 근비터에 목표 등이 영향을 되지게 된다. to be mot. If aviation units are cycled in and out to combat regularly,

항공부대를 전투이 장기적으로 순화 투입하는데만인 maximum efforts can be sustained indefinitely without degradation of 가무가공기 네츠 이 손상을 있었다 있어 지속적인 침대의 aircraft availability rates. When an aviation unit is committed for 对比上四是 对于老年少十一 时四 次子号时外 对各处也

continuous operation, resources must be managed very closely to insure ななの 早日をはせ 型以 社() コピー コピー フトラナル岩 that aircraft are available when a maximum effort is required. The 지방소교는 기를 겨울이 해야 한다. 적으 requirements for resource management in the high threat environment 引福部 对过处2111 %可对 亚生北汉之:

- Psychologically prepare to fight around the clock.
- 1. 청사 정과 사실 성으로 심기적으로 준비 2. Organize the unit and backup maintenance units to support
- 2. 不会对对对是对比对个级对证 中四层 时级升工 continuous operations

过于2岁 福川出港 圣川

- 3. Make available maximum aircraft consistent with future
- 3 자차 소요가 맛있는 힌데칸의 강광기를 가용타세에 requirements. Established aircraft availability targets should be 등다닌 가용항공기 목표는 단생 카야 하지만 그목표가 met but should not become the maximum to be released for operations.

곤 작전이 투입가능한 침대 숫자가 되어야고 양팀
4. Keep next higher commander and supported unit commander

- 가사급 지희산일 国からといか かから continuously apprised of status.

계等的 說影斗 姐 犯生。

- 5. Measure utilization as well as availability to determine true
- 5. 부대의 임무수행 참 등명을 견청키 이란 사용및 ability of the unic to perform.

不多的 智화社 李昭

B. Combat Service Support of Army Aviation in our country is based 나 미국의 국군 항공 전투근무기카드이 대한것은 on FM-1-100, which says of Aviation, -- Army aviation elements receive 야진되나 1-100 이 근거 하고 있다. 즉 이미 의하면

Combat Service Support through the system of support commands and assist 党근창공부대는 전투 근무 지원을 지원 사고경부 제도를 통해서 the support commands in providing CSS to other Organizations. 바는데 타무대에 전투근무 가원을 제공하는데 있어서 지원사건경부를 For our purposes let me describe the Aviation Maintenance and Supply 그러면 본토씨의 음작상 그냥 장비망 등는다는 것이다. 보급체계를 사고 보기로 하지.

> AVIATION COMBAT SERVICE SUFPORT 항공 전투 근무 기뉫

GENERAL POLICY

The aviation maintenance and supply system is designed to provide 하는 경비 보급 체계는 축권 항공기에 대해 경찰하고 adequate, timely maintenance and supply support for Army aircraft. The 시기에 맛는 정비 보장 자신을 제공 카드륵 되어 왔다 structure is based upon the assumption that flyable aircraft requirir 데랭가능한 항공기가 소급 부대의 정비능건 호과 하는 경투 maintenance beyond the capability of their units will be flown to an 저것한 26비 가인 발대를 날라간다는 전제하이 이루어져 있다. appropriate aircraft maintenance support unit. For non-flyable aircraft.

maintenance support may be furnished by contact teams from the supporting 다케서는 지원정비 부대에서 나는 이동 정비산이 정비를 maintenance unit or aircraft may be evacuated to the supporting aircraft 하거나 또는 장비 장소로 한공기를 구속하는록 되어 있다 maintenance site. Operational readiness float aircraft, to replace

작자근데 EM에 정비 대충 항공기는 자원 aircraft undergoing support maintenance, should be utilized to assist 忍明是也就到是一种利的了的是农山时 中的一部的智 aviation units in maintaining maximum availability of operational 가용 항공기를 유지 경우 있었음 두는데 서양되야 한다. aircraft.

# UTILIZATION

Realistic flight control programs will facilitate the ability of

현실적 비행통제 기획은 항공기 정비 부대로 카페급 available aircraft maintenance elements to provide effective support.

Î과건 가난을 제공하는 느견을 높이겠어다. Exceeding the established flying hour program will result in increased

이어 선정된 비행시간을 출과 카게되는 정비 기원소보도 aircraft maintenance support requirements.

금가하게 된다.

When the ground commander uses aviation support at an abnormally

지하는 지희원이 가능지원는 비건성성으로 과다히 high rate, he must understand that a period of reduced aviation capability 사용하게 되면 비행 시간사 항공기 장비시간만 균형이 다시 will follow until the balance between flight operations and aircraft 간긴대까지 항공능경의 감소가 된던경으로 따라는다는것을 maintenance can be restored. Even though the commander may be willing 만나다 한다. 만인 지희오나 즉각 밀원한 소모 때문에 to accept future reduction in aviation support as a tradeoff to meet 지하는 하다 등 등 등 등 가는 가는 가는 그래도 한다니다. 한국 등 등 가는 가는 가는 그래도 한다니다. 한국 등 가는 가는 가는 그래도 한국 다른 다이 immediate requirements, consideration should be given to the ability of 다가는 가능 부대의 지원 등 건 이 그런 된데야 한다.

the aviation unit to provide future support to other units. These units

이들하

may be deprived of future support if the aviation unit is unable to

부대들은 항공보대가 정비 때문에 기대되는 만큼 작건능적호

operate at expected efficiency levels due to a heavy backlog of maintenance 安沙州 知见 对别 的多对起是 是此州 到祖至 皇子 requirements.

720104.

INTERRELATIONSHIP OF SUPPLY AND MAINTENANCE
보급및 경비의 소호 라기

Effective repair support for aircraft in the field army is directly

아지는데 있어서 경우기의 로과적 것비지를 Cependent upon adequate and responsive aircraft repair parts supply

직전하고도 사태에 적응하는 수기약 보급에 직접 터관 되다. support. Repair parts required for frequent maintenance operations must

정비에 지수 서울되는 수감부속은 즉시 가용 카야 be immediately available, especially at the direct support level where 하는데, 특히 가네가 지체 없이 수간되어 사냥자에게 equipment must be repaired for return to user with the least possible 기들가 가야 한 직접기원 부대군에서는 그러하다. delay. Components, assemblies, and parts repaired by the general support

OLUE 기원 부대에 의해 수리되어 다시 지민로 들어갈 activity for return to stock constitute a major source of supply in support 구성품이나 결합체 또 기타 부족들은 정비 입투수했을 가원 of the maintenance mission. At the same time, repair of items for return 차는 보급 원건의 하나이다. 등시에, 수21도I에서 보군 개고로 to stock is contingent upon the rapid return of unserviceable stems to 들여 보내는 각이는 사용보가 풀을 신속한 일반되었 부대로 the general support activity. Thus, the interdependence of maintenance 바다 하나 여부에 달라이었다. 따라서 건비와 얼란이 사한 and supply is readily apparent; the requirement for positive control. 의존 관계는 덕러 하나; 즉 이 위의 업무의 등체, coordination, and management of the two activities is essential. 初至, 관山의 里路台 洲是山时外外 吸叶

- C. The factors of maintenance and supply mentioned so far only
- 다. 지금까지 아당한 정비와 일급의 요소들은 include those directly involved with the immediate problems of aircraft 항기 정비와 정시관건된 사랑만 풀었다고 있다. support. In addition other factors must be considered. The first of

이미 덧붙여 기타 모소들도 고려되아 한다. 그 첫째가 these is the consumption rates, in the various classes of supply, 부대 국기 이 된 12 전 연구들이 소모를 이다.
necessary to keep the unit operational. The total Combat Service 전체적 건투근무지원

Support picture must include the required resupply rate for food, fuel, EHMIN 포경되다 하는 것은 서울, 유규, 탄바, 고부, 개인 장비, ammunition, clothing and individual equipment, repair parts and the 수라부속, 기타 보급들이 소인 지부보급들인 것이다. other classes of supply.

- D. These consumption factors when integrated with the maintenance
- 라. 이들 소로 요소 들은 , 정비 첫 보급 기년 과 호에서 and supply concepts, requirements for resupply from the depot through 부터 중간층을 거쳐 서울자는 가는 지병급 소요 및 현 임우나 intermediate levels to the user, and the current mission lead to an 하혀 길 CH 이 전투근목지원 체계를 관리 할수 있는 integrated plan for managing the Combat Service Support package. That 하나의 통하 계획 을 이루게 된다. 이건한 support package should consist of those tangible logistic support resources 지원 체계는 장비를 잠깐 가능한 사는데을 유지 하는데 필요한 required to maintain equipment in an operationally ready condition. The 실제적인 군수지원 자원으로 구성된 아니라 한국에를 이 following elements probably would be found in planning of such a package 있어서의 이건한 지원체계 기록 이는 다음과 가는지 요소들을 for aviation:

- 1. Maintenance and testing equipment
- 정비 및 시청 강비
- 2. Supply support
- 2. "是在 지원
- 3. Transportation of supplies and equipment, and storage thereof
- 보급 문 경비의 수송, 그리고 그이 다른 저2는 Technical publications needed by maintenance
- 4. 정비이 필요한 기술교범
- 5. Physical facilities
- 실제 시설
- Personnel to maintain the equipment and a method to train
- 자비유지에 필요한 신원 및 보호인원을 콘건할 방안 replacements.8/
  - E. Summary.

To summarize this analysis, Combat Service Support includes more 이 분석을 모퉁하자면, 건투구두 지원은 단순하 than maintenance and supply. In Army aviation combat service support 지네마일급만 또함 가는것이 아니다. 육근 항공 의 전투 must also include preparation for extended operations, maximum 곤무지난 이 있어는 지구 각건을 의한 대비, 항상이의 availability of aircraft, integration of all parts of the logistics 到时,特的一个人,一个一对他是别出事站, 22公时转 package and flexibility to mect the changing combat situation. 전투상함에 적응한 항통성을 또한 포함해야 한다. IV. CONCLUSIONS

亚、对毛

To be determined by participants in the Management Workshop.

본 관리 연구호(Management Workship) 참가자에 그러 견생될것인 Conclusions should be based upon the working presentation and 22 ANS(外背线 豆是 图外的 引冷水中的

discussion.

RECOMMENDATIONS

건의 사항

To be determined by participants in the Management Workshop.

보고리 전구회 처하나에 의해 결정될것도
Recommendations should support the conclusions.

단 건의 사항은 견로를 지지하는 방향이에야 함

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### I. INTRODUCTION

소 개

A principle of business management says that the customes determines 사업경영의 한 원칙에 의학면, 사업체의 조직은

the structure of the business organization he patronizes. This is no 고객이 결정한다, 고 말하고 있다.이것은 틀림없는 사실이다.

doubt true as the wants of the customer do drive management decisions.

왜냐면, 고객의 요망이 경영의 견심을 작우 하기 때문이다.
For example, the shoemaker designs many styles and colors because of 에로들면, 양화공은 고객의 요구 때문에 어떠가지 모양과 색깔을

customer demand. Just so in the military, our customer, the fellow at

고안한다. 군사면 에서도 이와 똑같이 우리의 고객인 석이 the other end of the gun determines our structure. If the opposing 우리의 구조를 결정한다. 만약 우리와 대치하고 있는 석이

force is armor heavy, we add anti-tank weapons, if the threat is high

강력한 기갑부대인 경우에는 대전차 무기를 추가 하게 되며, performance aircraft, we add a system such as the Hawk.

또 위험이 고성농 항공기인 경우에는,"너크"와 같은 무기체계를 추가 시킨다. II. PURPOSE

옥 적

This issue will focus on ongoing thoughts of reorganizing to meet the 여기 에서는, 강차의 위험에 대처하기 위한 재 변성과, threat of the future and how this may be applied to Army aviation in the

지병여합니에 배치된 육군 항공에 대한 이외 적용방법 Combined Arms Team.

구상에다 초검을 두고 있다.

111. DISCUSSION

보 의

A. In 1976 our Army completed an assessment of our organizational 1976년에 미 육군은, 육군 전투면성의 항공대소노,

capabilities and limitations, called the Aviation Requirements for the 연구타 불리우는 편제상의 능력과 한국에 대한 평가를
Combat Structure of the Army Study. This was the third such study,
완료 한 나 있다. 이는 세 3 단계 연구가 되며, 일반적으로
and is commonly called ARCSA III.
ARCSAIII이라고 부른다.

The ARCSA III study focused on the Army force structure. Force ARCSA III 연구는 미 육군의 부대 구조에다 그 최성은 두고 있다. structure requirements were developed to maximize the contribution of 부대구조의 소요는, 육군항공의 효과 기어도를 ,제병 연합님의 기타 Army aviation effectiveness in concert with the other members of the 구성요원들과 조확시켜 이들 극대착 시키고, 가능시는 추가소요 비용을 Combined Arms Team and o minimize additional cost when possible. The 기발 된 것이다. 그 것과, 색토운 항공 때의 최소한도로 억제코저 resulting aviation force structure rules reflect an indepth analysis of 구소 원칙은, 총선 부대 구조의 대한 총심 교은 분석을 the previous force structures and the needs of the modern Army in order 있으며, 또 전부의 치열도 중에서 상에 이르는 위령에 대처 받수 있는 to counter the threat on a mid-to-high-intensity battlefield. Efficiency 근데착된 육군의 필요성을 반영하고 있다. and standardization are inherent in the rules which allow commanders the

표순 다는 원칙에서 불가띠 한 것으로써, 이는 지찍관으도 받어급 optimum access, control and utilization of aviation assets.

항공기에 대한 최선의 통제의 활용은 한수 있도록 해 둔다.

- C. The ARCSA III study analyzed basically three different time frames ARCSA III 연구역시는, 부테구조상의 소요와 관련해서 원칙적으로
- i. relation to force structure requirements. First, the FY 77 force 3개의 사로 다른 시간계획을 분석 백 보았다. 첫째, 77 되겠던도 structure refers to the force that existed as the study progressed.

부대구소는, 연구가 신척됨에 떠나 손세찬 부대의 관한 것이다.

Second, the HQDA programmed force for the 1980's and third tac ARCSA 111 둘째는, 미육군성이 1960년때는위해 기회한 위대에 관한것이다. 소백, approved force structure which refers to the force structure recommended 에서 승인한 부터 구조로써, 이는 ARCSA III 연구에서 건의된 by the ARCSA III study. 1/ 보더 구호를 만한다.1/

D. ARCSA III placed primary emphasis on attack helicopter companies, ARCSA III 에서는 수로, 공격체기동대, 전투자원항공중대(지급까지는 combat support aviation companies (previously known as assault helicopter 강습체기 중대라 불렀다. ), 및 중형 체기중대(지급까지는 강습지원체기 company), and medium helicopter companies (previously known as assault 중대라 불렀다)에 중점을 두고 연구 했다.

support helicopter company). All other aviation units have been thoroughly 그 외의 보든 항공 다는 전서한 채 병가를 기쳐, 소요는 확인 하기나, evaluated in order to either validate their need or make reductions when 소요의 근거가 바당하지 않을 때는 소요를 축소 노독 하였다. their need was not validated. Attack helicopter units were increased 사단에 대 기갑전 능력을 추가시키기 위해 공격했기 부대를 현거히 significantly to add anti-armor capability to the division. Combat support

승가 시켰다. 전투시원 항공 중대와 중령 텔기 중대는, aviation companies and medium helicopter companies were stressed to place

고도의 기동 부터를 시원 해야 할 스타가 군단에 군수시원을 logistical support into the division and corps where needed most to support 제공 하도록 강조 카였다. 아래 항공대 목록은, 육근 항공

a highly mobile force. The following is a list of aviation units in order 부데 구호를 우선 순위대로 표시 한 것이다. 에산 및 인력상의 of priority in the Army Aviation force structure. Considering fiscal and

제한을 고려해서, 부대를 추가 할 때는 우선 순위가 가장 높은 manpower constraints, additions to the force should begin with the highest 부대로 부터 시작해야 하며, 또 삭제 (또는 숙소)시는 가장 낮은 priority unit requiring additions; deletions (or cutbicks) should begin

우선순위 부대로 부터 착수 해야 한다. with units lowest on this list. 1. Attack helicopter company

공격 회개 중대

- 2. Combat support aviation company 서투지원 항공 중대
- 3. Medium helicopter company

송형 켑기 송대

- 4. Air cavalry troop 레기무장 정찰대
- 5. Helicopter ambu! we units 구급용 레가 데
- 6. Other aviation units 기타 항공 부대
- 7. Non-aviation units^{2/} 비 항공부대2/
- E. The findings of ARCSA III were based on our worldwide commit-ARCSA III 에서 얻은 결과는, 미국의 전 세계에 걸친 개입과,

ments and the potential enemy threat in Europe, the Middle East and 구락파, 중동 및 아시아 지역에서의 감작적인 적외 위협 등에

Asia. For this reason the organizational structures of that study may 입가한 것이며, 이 때문에 동 연구에 의한 년제상의 구소는

not apply to the ROK but should provide some possible thoughts for 한국군에 적용할수 없을지 모르나, 장차의 항공대 편성을 구성하는데 future aviation organization.

다소 도움이 된 것이다.

- F. Force Structure 부터 구호
- 1. Concepts 개념
- a. The mission of all efforts in structuring ROKA aviation for 1982 1982년과 그 이후의 한국 육군 항공의 구조를 흐직 하드는 이 모든

and beyond is to win any war that may come. This is done by developing 노력의 목적은 앞으로 오지도 모든 어떡한 전쟁이서도 승리되지 하는 다 있다.

- doctrine, designing organizations, defining operational and logistic 이는 교리를 발전시키고, 편제를 연구하고, 건부체계에 필요한 작전 및 requirements for combat systems, and training individuals. 3/ 군수소요를 파악하고, 인원을 훈련 시킴 으로써 성취할수 있다. 2/
- (1) The importance of doctrine in this process is that doctrine is 본 연구에서 교리의 중요성은, 바로 우니가 교니를 통해, 항상 변화하는 the method by which we express our assessment and reassessment of the 근 대전투시역의 성격에대한 평가와 재평가를 표현하기 때문이다. 보 / changing nature of the modern battlefield. 4/
- (2) In our Army we use the combat developments organization as 미옥군 에서는, 과기의 전투 경험을 연구하고, 보다 우수한 누기, the means to research past combat experience, and to experiment and 편재, 전술 및 기술을 제공 한 방법을 연구 시험 하는 및 건물 기술을 제공 한 방법을 연구 시험 하는 및 건물 기술을 제공 한 방법을 연구 시험 하는 및 건물 기술을 제공 한 방법을 연구 시험 하는 및 건물 기술을 제공 한 방법을 연구 시험 하는 및 건물 이용하고 있다. 5/ technique.5/
- b. The force structuring process begins with an analysis of the 부대소식과성은, 수행하게 되는 각종입부, 즉, 근접 전투, various missions to be performed, such as: close combat; fire support; 화력지원, 방공, 전투지원, 지취 및 통계, 수색, 그리고 통신과 같은 air defense; combat support; command and control; reconnaissance; and 입무 분석에서 부터 착수 된다. 동 분석 에서는 communications. This analysis must identify deficiencies in existing 전히 등덕상의 결합과, 식도운 등덕을 수립할수 있는 기획을 capabilities and opportunities to establish new capabilities. At the 제시 제약 한다. 이와 동식이, 부대구조 너의 기계 체계야 same time studies, tests and analyses are conducted to determine the 필요로 하는 소요와 우선순위를 판단 하기 위해 필요한

requirements and priority to be given to individual systems within 연구와 시험 및 본적을 실시 해야 한다. 6 / the force structure.

- c. The results of these initial analyses and studies are then placed 이약같은 초기 분석과 연구 결과를 총합 부대 구초 내 에다 within a framework of the total force to establish the optimum mix 맞춘다음, 가상 적합한 혼성 전투 체계와 부대 구조를 수립 of combat systems and force structure. 7/
- 2. Process. Figure 1 illustrates the interrelation of structure and 과정, 그림 1은 부대조직 과정에서의 구조와 상부의 equipment in the Force Structuring Process. 상호 관계를 표시하고 있다.
- a. Force Structure Assessment includes all analyses of the units, 부대구소명가에는,단위부대,편성부대,그리고 현행및계획된 부대구소의 organizations, and equipment of the current and programmed force structure 상비에 대한 모든 분석이 포함되며, 제반능력, 결함 to determine capabilities, deficiencies, and imbalances. Insights obtained 및 분 균명을 판단하게 된다. 이와 같은 고정을 거처 from this process lead to recommendations for redirection of the programmed 언어지는 자료는, 편제상에, 그리고 교니상의 수정 또는 새로운 상비 force structure through either organizational and doctrinal changes and/or 소요 계획등 방법을 통해, 계획된 부대구소에 대한 새로운 영eneration of new equipment requirements.

방향 세시에 이용 된다.

b. Force Design includes both the development of individual unit 부대 선계에는, 개개부대 구조와 교리의 개발과, structures and doctrine and the development of conceptual forces formed 들성임부, 낙선지역, 씨나티오 및 전략상의 소요들 위해

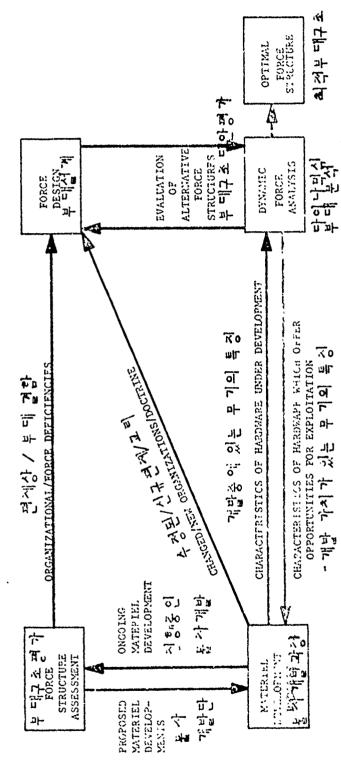


Figure 1. Interelationship of Force Structuring and Materiel Development Processes 9/

to meet the requirements of a specific mission, area of operation, scenario 면성된 개변상의 부대 개발로 함께 포함 된다. and/or strategy.

- c. Dynamic Force Analysis is a force effectiveness evaluation of 다이나의 부대 운석은 상호 작용하며, 상호 지원하는 편제와 interacting, mutually supporting organizations and weapon systems. This 무기체계에 대한 한 부대 효과 평가 방법이다. 이 process evaluates alternative mixes of systems and organizations in order 방법은, 해당자원 세약범위 내에서 총합부대 효과는 극대학 시키기 to optimize, within specified resource constraints, total force effective-위해 체계와 면제의 호용 대안을 평가 한다.
  - d. The output of these processes will be: 이러한 본석에서 있는 거라는 다음과 가다.
- (1) Insights into the working relationships between various combat 각총 전부 체계간의, 그리고 전부 지역에서의 전투 편제와 지원 systems and between combat and support organizations on the battlefield. 편제간의 실무 관계 파악
- (2) An evaluation of the contribution made by individual weapon 개개 무기 체계, 콘턴, 전술, 군수지원 세계 및 뜨겁기 systems, training, tactics, logistics support systems, and organizations 전투 건과에 미치는 기어도 평가 to the outcome of battle.
- (3) Identification of the most effective mix of combat systems,
  에산 및 인력제약 최건하에서 가용한 관계 전투
  with associated combat and combat service support, available under
  및 전투근무지원과 함께 전투제제의 가장 효과 적인 초등
  conditions of fiscal and manpower constraints.
  체계 파다.

- (4) Identification of materiel/system characteristics which offer 제계 상도간의 시원료과와 약점 규명에 근거를 마련해 opportunities for exploitation of identified intersystem supporting 주는 문자 / 체계 특징 판단 8/effects and enemy weaknesses.8/
- 3. Manpower Analysis. Manpower requirements, in addition to force 인력분석。 부대효율성 고려 상황에 추가해서, 인력 소요로 effectiveness considerations are part of all Force Structure actions. 총부대 조직 조지의 일부이다.

The development and acquisition of increasingly sophisticated materiel 서로운 교리와 편체는 물론, 증가 일로에 있는 정도한 물자 체계의 systems, as well as new doctrine and organizations create, at times, 개발과 획득은, 때로는, 전투부대와 전투시원 부대 공히 requirements for additional and/or higher skilled personnel in both combat 추가적인 또는 고도의 기술요원에 대한 소요를 야기 시키게 된다. and combat support elements. In many cases those additional personnel 대부분의 경우 긴요한 것으로 알려져 있는 이러한 주가인원소요는 requirements which are identified as being essential must be satisfied 다른 부대의 인원을 작가해서 충당하지 않으면 안된다. through personnel space reductions in other units. 10/

G. Tactical Employment. The final test of this force structuring 전설적 이용. 본 부대 초적 과정에스와 마지막 시험은, process is whether the unit can accomplish its mission. In the case of 그 부대가 임무를 수정받수 있느냐 하는 문제이다. 숙군 Army Avlation the mission — and the key advantage of aviation — is 항공외 경우, 항공의 중요 장점이기도한 이 임무는 its ability to provide mobility and responsiveness. Airmobile forces 기동력과 축과 호용 가능한 능력이다. 공중기동 부대는 provide the commander with a fast-reaction force during times of 최소한의 경보시간 하에서도 시취관 이곳 신속한 관주는 대를 제공해 준다.

minimum warning. They can perform in a variety of missions, both in 이들은 방어 및 공세 공회 각종 임무를 수 했잖수 있다.
defense and offense. In all cases they provide the following tactical 모든 경우에 있어 이들은 다음과 같은 건순상의 있었을
advantages to the commander.

시취관에게 제공해 눈다.

1 Exploit Mobility. Because helicopters have a marked mobility 기동력 개발. 플러는 작성연합단의 다는 구성 부터에 differential our other members of the combined arms team they provide 비해 두드러진 기동력을 보유하고 있는 관계상,

the means to apply heavy, decisive combat power swiftly. 강력하고, 결정적인 선투력을 신속히 적용시키는 수단을 제공하고 있다.

- 2. Mass forces. Airmobile units assist the ground commander in 부대집중. 공중기동 부대는 석보다 인터한집상에 있기위해 전투역을 신속 achieving the principle of mass by rapidly moving combat power, by 이동시키고, 기동부대와 착력을 집중시키고, 신속한전투근두지원을 concentrating maneuver forces and firepower, and by rapid combat 제공하는 면에서 지상부대 시위관을 보작한다.
  service support to gain an advantage over the enemy.
- 3. Exploit Surprise and Firepower. With this high mobility and 기술 및 확력개발. 전방지역 내외 에서의 이외값은 고도의 capability to operate into and out of forward locations, helicopters 기동력과 능력을 보유한 렌기는, 지역및 점 표석 사격을 통해 can strike the enemy when and where he is unprepared using both area 불시에 여학한 장소에서도 적은 공격 한수 있다.
  and point target fires. They can observe and adjust artillery fires, 도한 덴기는 관측이 가능하며, 포병 사격을 소장한수 있으며, disperse mines and position artillery and antitank teams.
  지뢰를 파괴한수 있으며, 포병과 대전자반의 위치를 선정해 순수 있다.

4. Surpress Enemy Weapons and Acquisition and gather intelligence.

석 확기및 취득, 제합 및 정보 수집

During the attack helicopters deliver supporting fires; they can maneuver 공격했기는, 지원사각을 가하면서도, 적의 인동은 전시하는데

to seek out the best positions to deny the enemy movement. At the 가장 전한한 진지 탈지를 위해 기통할수 있다. 이와 통시에

same time they provide timely information on the enemy, terrain, and

헬기는, 다른 출저로 부터는 획득할수 없는 색부대 시형 및 weather not available through any other source. 기상등에 관한 적시적접한 정보를 제공해 준다.

5. Combined Arms Team. Of most importance, helicopters operate as 제병연합립. 이상에서도 기장 중요한 젊은 ଆ기는

part of the Combined Arms Team. As such airmobile forces provide

세병연합팀의 일부로 작전 할수 있는 점인다. 왜냐면 이약같은 flexibility, mobility, firepower, and staying power for continuous 공중기동부대는 융통성,기동력,확력 및 지속적인 작전 유지능력을

operations. Properly utilized the helicopter is the key to success on 세공해 준다. 적설히 활용한다면, 벨기는 선부에서 성공의 the battlefield.

the battlefield. 영식가 된다.

H. Summary.

To summarize this analysis, ROKA aviation is in the midst of change.

이상 분석은 요약한다면, 한국,육군 항공은 현재 복학 전환송에

New aircraft will soon be introduced into the inventory and new units 있다. 신형 항공기가 머지앉아 도입될것이며, 새로운 두대가

will be organized. The decisions on the force structure, made now, 창선 된 것이다. 여기에서 내탁시는 부대 구조의 결정은,

must be based on the best estimate of the NKA threat. These restructuring 보긔 워크은 가장 잘 뿐단한 결과에 입각해야 한다. 노한

decisions must also include a realistic estimate of ANKA strengths and 이러한 제조식 견심에는, 가장 유니한 인원과 산비의 존용을 weaknesses in order to achieve the optimum mix of personnel and

위해 한국군의 병력과 약접에 대한 현실적인 판단도

equipment. After this planning is completed the final test of the

포함 되어야 한다. 이약같은 기획이 완료되면, 부대소식과성 force structuring process is the tactical employment of the unit. The 에서의 마지막 시점은 부대의 전술적 이용이다. 상비와 시설에

next issue paper on Equipment and Facilities will discuss other aspects 관칸 문제에서는 부대 소격 과정의 다른면이 관핵

of the force structuring process.

선명 호저 한다.

IV. CONCLUSIONS

겨 론

To be determined by participants in the Management Workshop.

관리 실무한 참석자가 내려 야 한다.

Conclusions should be based upon the working presentation and 결혼은 실무급 설명과 보의결과에 입각하여 한다. discussion.

### V. RECOMMENDATIONS

거 의

To be determined by partipants in the Management Workshop. 관리실무한 참석가가 결정했다.

Recommendations should support the conclusions.

건의는 결혼을 뒷받침 해야 한다.

## FORCE STRUCTURE -- TOE REFERENCES 부 대구소 - 참고 서적

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ISSUE: EQUIPMENT AND FACILITIES - 79 VS 82.

무적: 장비와 시설 - 79년 대 82년

I. INTRODUCTION

소 지

Historically our country has found itself unaware and unprepared 역사적으로 볼때 미국은 미국이 관련된 전쟁이 발생 했을때

when wars involving us have broken out. We have always depended on 이를 모르고 있었으며, 또 준비도 되었지 않았었다. 상급까지 전쟁발생후 having a period of time to get started at the war effort. This time,

미국은 전쟁준비를 위한 기간을 갖일수 있었다.

however, has been costly and inefficient. Our build up of the Army 그러나, 이기간은 상당한 탁가를 지불했으며, 또 비능률적이었다.

Aviation training base at the start of the Vietnam conflict was filled 울남전 계시 당시에 있었던 육군 항공 교육대의 증강은 모순과 낭비투성이

with mistakes and waste. This ineffectivness was based on a lack of 었다. 이와 같은 비능률은, 기斗가 목표 개발 부재에 planning and development of objectives.

기이 하였다.

II. PURPOSE

목적

In this issue we hope to assist you in the planning for your growth in 본 의제에서 우리는, 우리의 생각가 가거 경험을 토대로 equipment and facilities by sharing our thoughts and past experiences. 하여 여러분의 장비와 시설 확장 계획을 보작코져 한다.

III. DISCUSSION

토 의

A. Equipment - 79 vs 82 장비 — 79년 테 82년

Basically we already know what your equipment will be in 1982 - or at 근본적으로 우리는, 1982년역가서 여러분의 장비가 어떤것인가를, 혹근

least what the aircraft will be. The large growth in the rotary wing 적어도 어떤 종류의 항공기가 될 것인가를 이미 알고 있다. 회전의 항공대의

fleet has already been discussed in terms of the Combined Arms Team and 디규모 성장의 과학서는 제명 연합집 각 전투근무 직원이서 이미

Combat Service Support. It is important to include all of the other 상명 한바 있다. 부탁가 보유하고 있는 모든 장벽을 폭짝액

equipment of the unit in your planning. When we arrived in Vietnam we 포참 시킨터는 것의 중요하다. 융남에 도착했을때 우리는

found that we had the aircraft to do our mission, but not the facilities 입무 수행에 필요한 창공기가 있음을 알았다. 그러나, 이를 항공기를 in which to repair them or the equipment to repair them. Subsequently, 전비한 시셨이나, 공구가 없었다. 그 경자 미국군 항공대는

Army Aviation gained the reputation of continuing to operate despite 이러한 미비한 기운데서도 계속 운명을 했다는 명성을 얻게 되었다.

these shortages. Though commendable for it's intent, this type of planning 비록 그러한 외도는 가상히 어길수 있으나, 이러한 농류의 기획과

and operation was foolhardy on our part. Why, because without the proper 운영은 무모한 짓으로 박 에는 볼수없다. 외나히면, 직접한 지원

support continued operations in an intense conflict are not possible. 없이는, 처였한 전투에서 계속적인 작전 ^인 불가능하기 때문이다.

Thus when preparing for the growth of ROKA aviation from 1979 to 1982 고로, 1979년부터 1982년까지 한국 육군 항공의 녹장을

it is critical that all of the equipment of the unit be examined to 건복하기 위해서는 현재부터가 모유하고 있는 모든 장벽을 점검하여 determine what will be needed.

어떤장비가 필요한기를 판단하는 것이 중요하다.

- 1. Specifically, what types of equipment must be considered: 클리, 여기에서 고려되어 안 종류의 상비에는 디유기 간은 것이 있다.
- a. Mechanics tools 전비시 공구
- b. Organizational tools necessary to per orm daily maintenance. 의의장비 수행에 필요한 변성부드 공구
- c. Special tools 특수 공구

- d. Ground Support Equipment such as Auxiliary Power Units. 보조 동력 장비의 같은 직상 지원 장비
- e. Refueling Equipment 급유 장비
- f. Fire and Crash Rescue 디즈, 및 시고구조박
- g. Armament Repair 무장 수리기
- h. Ammunition Transportation 타약 수송
- 2. All of this equipment refers to aircraft operations. It should 이와 같은 작비는 모두가 항공기 운영에 관계되는 것들이다.

not be forgotten that the unit must move and communicate as well as 또한, 부대는 시각은 물론 이동도 해야하고, 교신도 해야한다는 사실을

shoot. Growth in aviation therefore means the requirement to move 있어서는 안된다. 따라서, 항공대의 확장은, 이전에는 생각조차 못했던

much larger quantities of spare parts, and fuel, than were ever con-상당량의 역비 부속품각 언료를 이동해야함을 뜻한다.

sidered before. Development of Table of Organization and Equipment 편지 상비표 개발시 이 문자를 고려해야 한다.

must consider this requirement. As a planning objective, equipment

기획 목표로서 장비 관리관은 해당종류의 부대를 어느장소의, 그리고 어디에

managers will need to determine where and how the type unit expects 비치할 것이며, 또 해당 일무 수행에 어떤 종류의 장비가

to be deployed and then what equipment will be necessary for it to 필요간가를 판단 하야 한다. 이는 면찍성의 기동력을

accomplish its mission. This must be done in the light of the need 최대한 유지지는 위해서도 반드시 싫시적이 한다.

to maintain maximum organic mobility.

- Mobility planning must include requirements for: personnel, 기통 계획이는 다음과 값은 내용을 포함하여 한다. weight and cube of both TOE and non-TOE cargo, and common issue items 인인, 편지 장비표 및 내 편지당비표상의 되문의 승성지 부계, 및 of supply such as tents, and mess equipment. $\frac{2}{2}$  For aviation units the 천막과 취직 장비와 같은 공통 지급품. 2/ 항공드의 경우, 부탁이동 capability to move the unit will include those vehicles dedicated to 능력에는, 임무지원에 필요한 차능기, 무대보유 항공기능 support the mission, and the unit's aircraft. $\frac{3}{}$  An adaptional require-포함 시계약 한다. 3/ 그렇고 도, 부드 만약 기본 ㅠ드랑 수송 ment exists to plan for the transportation of the unit's basic load 지획도 수립적이 산다. 이거획을 완성지고 되인으기 of ammunition.4/ To finalize and confirm this planning, unit loading 위해서는, 부대 학문 직학 계획을 수입했어 한다. 기 기를 통해 plans should be prepared. This will identify any shortfalls 다른 부대의 지원을 요기는 어떠한 부족되용도 피와 잘 수가 있다. requiring support from another unit.
- b. Communications equipment must also be planned to provide 보데 임무 지휘 및 봉지를 위해 간요한 최소간의 공신 상비에 adequate minimum essential communications equipment for command and 데한 계획도 수답적이 한다. 조/무실계 외으도, control of the unit mission. 전 in addition to radios this planning 안뛰니, 육성 교신 보안 디잭 발전계 및 실택 상비, 등이 should include antennas, speech security devices, generators and 보 계획이 포함 되어야 한다. telephone equipment.
  - B. Fixed Wing Role. 고성의 항공기의 역할

Some specific thought must be given to the role of your fixed wing 그정의 증공기의 장치 의문이 드는 그녀는 이유다

- aircraft in the future. These aircraft still offer a valuable asset
  - 헤이 한다고 생각된 ... 이를 창공기는 먹음과 같은 무기지
- for two principal reasons: one, they are less complex to operate and 주요한 이유로 이직도 유익한 장박이다. 첫째, 이름 항공기는 소설하기의
- less expensive to maintain and operate; and two, they offer extended 용이하고, 유지및 운영역 비용의 덮 소요되면, 둠짝, 다른 콕즈인 당동기에서
- flight time not available with rotary wing aircraft. Fixed wing aircraft 보수 없는 긴 비행시간이 가능하다. 고정의 항공기는 적의 방공방
- will not be able to operate close to the FiBA because of the air defense 때문에 (전방 전투지구) 근처에서는 작건 알 수 없으나,
- threat, but to the rear they offer inexpensive and rapid courier service 후방지역에서는 빈번한 급유 없이도, 염기이며 신속단 전력
- with fewer refueling stops. Additionally, the fixed wing aircraft offer 업무를 맡아 수팅 할 수 있다. 또한 고정의 항공기는 >시간 느낌 4시간
- excellent opportunities to perform such missions as rear area security 통인 비행 가능 등뎍으로 인터, 주방 지역 경기 및 정찰의 같은
- and reconnaissance because of their capability to remain in clight for 임무 수행의 적구인다. 고정의 항공기가 어디간 임무을
- three or four hours. In this role they relieve helicopter assets for use 말이 수행함으로써, 빨기를 전방 근처 임무의 전환 시킬수가 있다.
- near the front. An inherent disadvantage of the fixed wing fleet is the 고정의 항공기의 박고난 약점은 현재의 수명과, 항공기의
- present age and maintenance costs that will increase as the aircraft age 수명이 증기됨에 따라 증가할 정비 비용이다.
- also increases. In terms of management, this portion of the aircraft 가리면에서 높띠, 미를 항공기를 소요하기 잘 조성하여,
- inventory offers an asset to be properly balanced in the requirements and 직전의 항공기를 보다 더 중요한 역할에 들일수 있지 때는것이
- to be used to release rotary wing aircrait for more criti al roles. 바라지 하다.
  - C. Aircraft Survivability Equipment (ASE). 항공기 해진 가능 장박 ( ,

- 1. This area has not been addressed before but does require con-이 분이에 띄해서는 이전 연급단바 없으나, 군의의 의부로써 sideration as a part of management. The reason is that unless aircraft 고려해야 한다. 그 이유는, 창궁기와 승무원이 경고단 and crews are prepared to meet the expected threat from sophisticated
- 데공 화기모부 떠의 위협에 디비하지 않는 한, 교전 초역
- anti-aircraft weapons they will not surv.ve the first engagement. Thus, 살아 남지 못 작가 때문 이디. 고모, 관리관은 위협을
- managers must analyze the threat and determine what equipment is needed 본석학고, 어떤 종류의 상비가 띮요하며, 어떤 종류의 논편을 and what training given to pilots.

조정사에게 실시해야 하는 가를 판단하지 않으면 양된다

- 2. Four areas have been identified as significant in discussing 이간해 중요시되는 다음 가 같은 분야 4개를 여기에서 취급되지 ASE. They are: signature duction, crew warning, active and passive 한다. 즉, "시그녀주어"(탐지및 분류장지역나라난표적의 특징적인뜨면) countermeasures and vulnerability reduction. 의 감소, 승무원정보, 직극 및 소극적 대응책 및 취약점 감소 이다.
- a. Signature Reduction. For the enemy to kill the aircraft on "시고 네추어"의 감소, 전투지역에서 적이 아는의 청궁기를 구두 the battlefield he must first detect this aircraft through visual or 지기위에서는 우선 아군기를 육한 또는 전지 방법을 통해 electronic means. To deny the enemy this opportunity, it is necessary 탑지해이 한다. 적역기 이런 기회를 처용해 주지 않기 귀해서는, to reduce or eliminate the aircraft signature which allows detection and 탐지와 궁극적인 피괴를 가져오겠지는 장공기 "시고 북주어 "를 감소시키기나 eventual destruction. The specific areas which must be suppressed are: 전기한 필요가 있다. 은 때 하야한 부분은 다음기 간다.
- infrared (IR) signature, aircraft body, and hot metal areas, solar 적외선( ) "시고네추어", 항공기 기체, 가입된 급속부분, 특양역 의한 glint, radar cross section and visibility. 7/ 빛의 반사, 력이다 되단면과 식구.

b. Craw Warning. Critical to survivability on the battlefield is 승무원 경보, 전투지역에서 생손하는 다 있어 중요한 것은, for the crew to know when the enemy has detected its aircraft. For 적이 아군 항공기를 탐지한 시설을 승두운의 아는 일이다.
once the enemy has detected the aircraft, destruction is eminent unless 일단 적의 이근기를 탐지하게되면, 의의대한 의한 조치를 취하지 않는한 action is taken to prevent it. To meet this critical need, a crew 파괴는 시간 문제의다. 이러한 것의 대비하기 위해, 팀의다유도 warning devices are now available to alert for radar directed weapons 무기체계를 시전에 경보해주는 승무원 경보 장치가 변지 systems.

c. Countermeasures. To increase the survivability of aircraft on 때음책. 전투지역에서 항공기의 생존가능성을 중드 시키기

대용적. 전투지역에서 항공기의 생존가능성을 중도 시키기 the battlefield a variety of countermeasures must be employed to degrade

위해서는, 각종 대용적을 사용하여 적곡 대공체적의 소각을 떨어 the effectiveness of enemy anti-aircraft systems. Due to the variety

트리지 않으면 않된다. 각종 위협무기의 취득가 적으군 추적 및 유도

of threat weapons acquisition, tracking and guidance methods employed, the 방법등으로 인기, 특정 당공기엔사 사용하는 지금책은, 전투지역에서

countermeasures applied to specific aircraft must be best suited to the 조용하게되는 적의 위협체계에 기상 적답한 것이어야 난다.

threat systems encountered on the battlefield. Countermeasures must also 또한 디용책은, 적의 위협을 가장 효과적으로 군쇄되는 및 사용되는

be used to complement the signature reduction and crew warning measures "시그녀추어" 감소와 승무원 경보 장치를 보강 하는데도 이용되어야 한다.

used to best defeat the threat. The active and passive countermeasures 이와 같은 과적 당성을 위해, 현재 개발중으 있는 적극 및 소극

in development which will accomplish this task are: infrared jammers, 디용 책으로써 다음과 같은 것이 있다. 적외선 방향,

radar jammers, radar decoy dispensing systems and IR missile decoy 텍이다 방책, 데이다 모의 설치 장치 및 지통설치능력을 가진 적외선 미시의 모위 장치. systems with automatic dispensing capability.

- d. Vulnerability Reduction. Engineering design used to increase the 취약성 감소. 항공기의 생존기능성 증기를 위한 사용된
  survivability of the aircraft must be maximized. Upgrided ballistic
  기술 섬계를 최대한 활용 해야 한다. 탄도내장치의 기선,
  tolerance, dry run transmissions, single engine power, and advanced
  모의 실습 전달, 단발 기관의 동력, 및 진보된 설계에 의한 최전의, 등이
  design rotor blades are significant examples of advanced technology
  취약성 감소를 위한 진보된 기술의 중요한 역탁 할 수 있다.
  to reduce vulnerability.
  - D. Facilities 시 실

will provide the output necessary to meet the requirement for approximately 가 정비서를 능히 배출할 수가 있으나 하는 문짜이다.

1200 new pilots and 1600 new crew chiefs and mechanics.

2. Combat Service Support Facilities: 전투 근무 직원 시설:

In addition to the growth of training facilities, planning must be 훈련 시설 확장에 추기해서, 전투 근무 지원 시설 구상 accomplished for the growth of the Combat Service Support facilities. 계획도 수립 하지 않으면 안되다.

The large increase in rotary wing aircraft will mean a significant 최전의 항공기의 대량 증가는, 모든 수준의 정비 부디에 의한

increase in the stockage of repair parts, at all levels of maintenance. 수리 부속품 저장의 변적한 증가를 의밀한다.

This will require enlarged facilities with greatly increased capability 이러한 사실은, 부속품은 저장하고, 이를 찾아내고, 용도를 기독하고

to store the parts, find them, record their use, reorder replacements, 보충품을 재 청구하고, 이름 다음 수준으로 이동 시킬만한 대규모 능력이 있는

and move them to the next level. This growth then includes not only the 확장된 시설을 필요로하고 있다. 다음, 이러한 확장은 비단

physical facilities, but the trained personnel and the vehicles and 모리적이 시설뿐만 이니리, 콘텐된 요원과 차량 및기타 필요한

other handling equipment needed. An additional factor is the location 장비도 포함 되어야 한다. 다음은, 이러간 시설의 위치

of these facilities. Careful consideration must be given to that 문제이다. 의치선정에 있어서, 재고가 공항 혹은 창만으로부터

location in relation to where its stock comes from - the aerial port 오는건지, 그리고 수송방법, 즉 도로망은 이용하는건지, 비행장 또는 or sea port, and where it is going - the road network, availability of আ기 착륙장이 가용난지, 그리고 지역 구분 등, 은 신중이

an airfield or helipad and compartmentation of the country. $\frac{9}{}$  Current

고려 해야 한다. 9/ 현재 시용중인 위치들을 제 평가해서

locations should be reevaluated to determine if they suit the future threat 장차의 적 위협에 대처합 수 있는 직합한 위치 인지, 그리고 적의 공격을 쉽게 and are vulnerable to easy attack or isolation. 10/

받거나, 고립되 위점은 없는지 등, 을 판단하여 한다. 70%

### E. Summary.

7, 0

To summarize this analysis, planning for ROKA aircraft ass s is 이상을 요약해 본다면, 한국 육군 장궁기에 드는 거칙은 well advanced, and the same in depth thought must be given to the other 훌륭하며, 따라서 다른 장비에 대해서도 이와 동등한

equipment of the unit. This planning must also include the mobility 참작을 해야 한다. 또한 본 계획에는, 부데의 필요한 기동력과 통신 소요 requirements of the unit and communications needs. ROKA retains 등, 도 또함 시켜야 한다. 한국 육군은 현지 귀중한 고정의

valuable fixed wing aircraft assets and their role in future warfare 항공기를 보유하고 있으며, 따라서 장차 전투에서의 인들의 역할을

must be determined. The importance of, and need for, aircraft sur-그정하지 않으면 안된다. 그리고, 항공기 생존 장비와 훈련의

vivability equipment and training must also be considered. Finally, 중요성각 이외 필요성에 대해서도 고려해야 한다. 끝으로,

the most efficient use of training and combat support facilities must 훈련과 전투지원 시설을 가장 효과적으로 이용하는 문제를 be considered.

고려해야 한다.

IV. CONCLUSIONS

기 로

To be determined by participants in the Management Workshop. 관리 실무 연구반에 참가한 사람이 내려야 한다.

Conclusions should be based upon the working presentation and 결론은, 실무 설명가 토의 결과로부터 나려져야 한다. discussion.

#### V. RECOMMENDATIONS

건의 사항

To be determined by participants in the Management Workshop. 관리실무 연구반에 참가한 사람이 내려야 한다.

Recommendations should support the conclusions.

건의 사항은 결혼을 뒷받침 해야 한다.

# EQUIPMENT AND FACILITIES REFERENCES 장비와 시설 관계 참고 서적

- 1. FM 100-5, page 1-1.
- 2. TRADOC Supplement 1 to AR 310-31., Appendix K, paragraph K-1.
- 3. <u>Ibid.</u>, paragraph K-2.
- 4. <u>Ibid</u>., figure K-4.1.
- 5. <u>Ibid.</u>, paragraph N-1.
- 6. <u>Ibid.</u>, paragraph R-2.
- 7. Army Aviation Program Review (AAPR-78), Senior Attendee Book,

Secret, (U), page II-I-47.

- 8. <u>Ibid</u>., page II-I-48.
- 9. FM 55-40, page 4-9.
- 10. <u>Ibid.</u>, page 9-2.

ISSUE: TOTAL SYSTEMS INTEGRATION.

문제: 전체 시스템 통합

I. INTRODUCTION

1. 서로

Total Systems Integration, as a management tool, is a new concept. 나 하나의 관리 도구로서 전체 시스템 통합은 시로운 기념 입니다.

Previously, organizations have bought new equipment, introduced a new

이전에는 부대들이 신 장비가 고육, 군수 및 자급 말당면에 미치는 product, or in the case of the Army, fielded new equipment without a 영향을 완전히 이백하지 못하고 신 장비를 구입해 왔으며,

full understanding of the impact it would have on training, legistics

시로운 제품을 소개해 왔고 또한 육군의 경우는 신 상비를 실진비비해 and funding. This lack of a total view has led to numerous failures.

왔읍니다. 이같은 전체적인것에 대한 관찰부족은 수많은 실찍를 초레했읍니다.

We in the Armed Services now recognize the need for a coordinated effort

군에 있는 우리는 이제 어떤 품복이 필요한가를 결심함에 있어 노력협조의

in deciding what kind of item it is that we need, and then how best to 필요성과 그 품목의 디자인, 제작, 실전베비, 인원닉치, 그리고 궁극적으로는

design it, build it, field it, man it, and ultimately replace it. 2/ 다른것으로 대치하는 최신의 방법적 대한 필요성을 까닫고 있읍니다.

II. PURPOSE

11. 및 적

This issue will discuss the total systems integration approach to 이 문제는 전체 시스템 통합간의 방법가, 이같은 관취의 적용에서 management and possible benefits to be derived from application of its 일어질 수 있는 이익을 토의할 것입니다. principles.

III. DISCUSSION

111. 토론

The focus of total system management is that tomorrow's tactical 전체 시스템 관리의 촛점은 무기체계를 실권배계 지기 위한 내일의 전술

전에 이스템 본의의 옷잡은 무기에서는 생선에서 기가 위한 기술의 건물 concept for fielding a weapon system will clearly include hardware,

개념에는 무기라든가, 지원 및 인원 소요가 분명히 포함된다는데 있읍니다. support, and crew requirements.3/ Further, that it will all be available

분만 아니라 무기체계가 실전비치되띠는 모든것이 가용할 것이라는 when the system is fielded. The result of total system management will

것입니다. 전체 시스템 관리의 결과는 최대한의 전투능률을 익미 합니다. mean maximum combat effectiveness - That all of the considerations required

즉, 한 무기체계가 약전에서 부대들 각 함께 효과있게 하도록 하는데 to make a system effective in the field with troops will be ready.

요구되는 고려사항 모두가 준비된다는 것입니다.

A. Reasons that have lead to the development of the total systems 가. 전체 시스템 개념을 발전시킨 이유는 디음과 같음니다. concept are:

- 1. First, equipment has become more complex, it is more costly
- 1. 첫째, 장비는 더욱 복잡하였고, 저작 및 운용비가 더욱 많이 to build and operate and more difficult to operate. Because it is more 소요되며 운용자체도 더욱 근란합니다. 고가의 운용비와 costly to operate and more complex, better training techniques are 복잡성 때문에 더욱 훌륭한 교육 기술이 요구되는 것입니다. required. We must have better logistics to support it; and because 우리는 무기체제를 지원하기 위한 더욱 훌륭한 군수를 보유하여 하며, the costs continue to go up, we must become more efficient in training 생산 단가는 계속 상승하고 있으므로 우리는 교육 및 장비에 있어서 and maintaining. This is difficult to achieve.
  - 더욱 숙달되어야 하는데 이것은 성취이기가 곤란 합니다.
    - 2. Second, the material acquisition cycle is too long. If we truly
- 2. 둘째, 물기 부족 수기가 너무 상기 입니다. 우리가 건있다 want total system development, then shortening the cycle is vital.

전체 시스템 발전을 원한다면 주기를 단축하는 것이 중요합니다.

- 3. Third are recent lessons learned. After the October 1973 War
- 3. 세번째는 최근 이 벌어진 교훈들입니다. 1973년 10일 중동전 in the Middle East our Armor School studied the lessons of that combat 이후, 우리 기갑학교는 전체 탱크 체크 연구에서 중동 전투의 교훈을 in the Total Tank System Study. 5/ That study found that tanks in the 연구 했읍니다. 이 연구에서는 보유하고 있는 탱크들의 항상 가용한 inventory were not always available. The crews were not trained. 것은 아니라는 사실의 밝혀졌읍니다. 승무원의 교육의 않되어 있읍니다. 전우 의 교육의 않되어 있읍니다. 인원의 신체적인 특성때문에 표적탐지능력의 제한 되었읍니다. to detect targets. 6/
- B. An example of the factors and considerations of Total Systems 나. 전체 시스템 통합의 요소들 각 고려사항의 실역 Integration.
  - 1. Our Army is considering building the Advanced Attack Helicopter
- 7. 우리 육군은 구격용 텦기 제작을 구상중의 있으니다.
- (AAH). To examine the impact of a total systems approach, the following

전체 시스템 방법이 미칠 영향을 조사하기 위치서는 공격용 톏기 체ブ를 must be solved before the Army builds a lot of these systems:

대량 제작이 앞서 다음가 같은 사항이 해결되어의 합니다.

a. What is the maintenance burden to a unit caused by the

가. 공격용 텔기를 부대에 도입시킴으로써 약기되는 그 부대의 정비 introduction of AAH to the force?

부담은 어떤 것인가?

b. What is the complexity of the AAH in terms of the mechanics

니. 계속 가동상태로 유지막는데 요구되는기계적인단어서 required to keep it working?

공격용 헬기의 복잡성은 어떤 것인가?

c. Re-supply of ammunition.

다. 탄약 전보급.

d. Service of equipment.

라. 장비의 소질

2. Training.

2. 교육

a. When we introduce new equipment today, a New Equipment Training

가. 우리가 오늘날 신 장벽를 소개할때는 신 장벽 교육반을

Team is sent out. The instruction is formal and students do not get their 파견 합니다. 교육은 형식적이며, 학생들은 실찍로 그 장벽를 즐기 보지 hands on the equipment. The technical manual is new and not user

모하고 있습니다. 기준교범은 신간이며, 사용자 시험은 시행되지 않습니다.

tested. When the New Equipment Training Team departs, the unit has few 신 장벽 교육 전답반이 파견될때 교육용 자제를 거의 휴대하지 있으므로 training materials, thus individuals and crews cannot increase their

각 개인들은 그들의 숙달을 향상시킬 수가 없읍니다. proficiency. Six months later the equipment doesn't work and the

6계월 경과한 다음에는 상비가 가동이 않되며 사용자는 user has lost his confidence in the equipment.

장비에 대한 자신감을 상실 합니다.

b. Total training package. A package must be developed that has all

나. 일괄교육. 각종 식보운 교육용 모의장치들과, 장비슬날
of the new kinds of training simulators, and a Program of Instruction that
고육이 포함되는 POI 를 수반하는 일괄교육 방식이 기탈되어야
includes hands-on equipment training. When the new equipment training team
합니다. 신 장비 교육 전담반이 교육을 끝낸때는 개인들과 승무원
is finished it must leave behind enough devices, films, and training
들의 그들의 숙달을 향상시킬수 있도록 충분한 교보제와, 교육영과
extension courses so that the individuals and the crews can improve their
및 TEC를 남기 놓아야 합니다.
proficiency.

- c. Basically three questions must be answered:
- 다. 근본적으로 아래와 같은 3가지 문제가 학결되어야 합니다.
- (1) What tasks and events correctly describe individual and crew
- (1) 그 및 요권의 솜씨를 정확하게 나타나지 하는 입무와 종목은 performance.

무엇인가.

- (2) Where instruction is to be given.
- (2) 교육실시 장소는 어디로 함까.
- (3) How best to maintain proficiency.
- (3) 숙달을 계속 유지하는 최선의 방법은 무엇인가.
- 3. Personnel.
- 3. 인원
- a. In your Army and ours an infantrymen (11B) must perform more
- 가. 한.미 육군의 보병은 M60기관총의 조립,분호, 사격등 100개항목. than 100 basic skill tasks, such as assemble, disassemble, set up
- 이상의 기본 숙달 임무를 수행하여야 하며, 이것은 하나의 숙달 and fire the M60 machine gun That is one skill task.

임무 입니다.

- b. We then send the man to helicopter crew chief school and teach
- 나. 그다음 우리는 그를 헬기 조장 학교에 보내어 그에게 여러가지 him numerous additional tasks. Our rate of eliminations for the 추가적인 입무교육을 합니다. 7978외계년도 항공 수익병 교육 과정을 enlisted Aviation Mechanics Courses, for FY 1978, was approximately 15
- 이수한 7/사병제대 비율은 약 15% 였읍니다. 이는 관리문제인 percent. This means that 115 percent of those needed per year in the 수요를 충족시키기 위하여 약전에서 년간 필요한 인운의 115%를

field must be recruited to meet the demand - a further management problem. 지근집하다라요 의미 하니다.

- c. All of these aspects must be looked at in the growth of ROKA
- 다. 이러한 부문의 모든 사항은 한국군 항공의 성장에서도 고찰되어야 합니다.

aviation. The sum of them is the need to integrate the pieces of this 이러한 모든 부분의 납계가 새로운 관리 개념인 문제 납나하나를 puzzle. - A new management concept.

통합하는 필요성인 것입니다.

C. The Management Mode. In order to pursue this concept of Total 다. 관리 모듈 선체 시스템 통합 그님을 추구하기 위식시는

Systems Integration we must have an orderly flow of thoughts from the 맨처음 착상에서 그 품목이 수명을 다히 폐기처분되때까지

first idea to the end of the life cycle of the item. The management 질서 정인한 생각을 가져야 합니다. 약간은 시고 방식의 과정은

tool normally used to visually depict this thought process is called a 육안으로 보이도록 하는데 통상 이용되는 관리 도구를 관리모델이라고

management model. A model is a chart which depicts the life cycle of

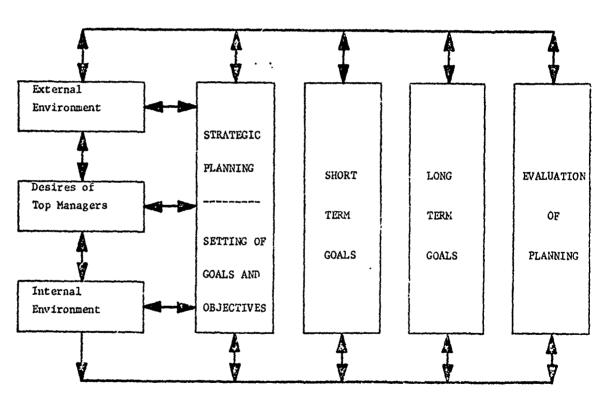
부르는 것입니다. 모델이인 간단한 유통 그림의 제도역 한 품목의 an item in a simplified flow chart. The model is event, not time oriented, 수명 수기를 표시한 차드를 말합니다. 모델이만 산건이며, 시간을 thus the size of the blocks and the length of interconnecting lines have 지향하는 것은 아닙니다. 그러므로 도표난의 그기와 상호연교산의 no bearing on the duration of the event.

길이는 사건의 지속 기간역 아무런 영향은 주지 않읍니다.

- 1. How a general management model is used to aid in organizational
- 7. 일반간리 모델이 미래의 계획수립에 간한 편성상의 decisions on future planning.

결심을 함여 있어 도움이 되도록 이용되는 방법입니다.

# A GENERAL PLANNING MODEL 9/



a. The first decision to be made by the top manager is what it is 가. 수식 관리자가 멘 먼저 결심하여 참것은 무것이 관한 편성이며 that they are about, what is the purpose of the organization. 10/ Here 그 목적은 무엇인가 하는 것입니다. 전 한민구군단장의 단우 인동적인 in the ROKA there is no doubt that this purpose is to "kill the Communists," 한국군에 있어서의 목적은 공산주의자들을 때여잡는 것입이 분명하느미. to quote a former 1 Corps Commander. So that being the purpose, the 목적이 이러하기 때문에 관비자는 그 목적 또는 입무 성취인 manager must develop objectives necessary to accomplish that purpose, or 필요한 목표를 밝힌시켜야 합니다.

mission. This encompasses the strategic planning aspect of management. In 이에노 과미의 전략적 계획 수립 부문도 포크 됩니다.

accomplishing this planning, the manager must take into account three 이같은 거획 수립을 이행함에 있어 관리지는 다음 기가지를 참작하여

things: the internal resources of the organization; the external 합니다. 부데의 느직인 시원, 외적인 환경, 그리고

environment; and, the values and objectives of whomever is the leader or 부디 지휘자 또는지귀간의 가치간 및 목표 등 3기지 입니다.

head of the organization. The internal resources must take full account 내적인 자원은 강점과 취약점을 충분히 참작하여의 하며,

of both strengths and weaknesses, it must balance desire against the 욕망은 희생적인 의욕, 돈을 소비하려는 충격, 부터 인원의

willingness to sacrifice, the impact of spending money, and the state of 고육상태등과 균형이 이룩되도록 빨이 합니다.

training of your personnel. The external environment includes in the 괴적인 환경이는 한국군의 경우 비단 북겨로 부터의 위법

case of your Army not only the threat from North Korea, but the current 뿌만 아니다 이지역에서의 정치 및 직정 강황이 포함

political and fiscal situation in this area of the world. Last, the 됩니다. 미지막으도 욕망가 지휘봉솦의 생각은

desires and thoughts of the leadership must be considered in terms of 목표의 정도에 따라 고려되어야 합니다.

the extent of objectives. This might mean such a thing as will we 이는 우리가 방적만을 합것인가 아니면 세로운 땅을 defend only, or will we attack to gain new ground. 획득 학기 위치 공격을 한것인가 --- 이같은 사랑을 의미할수 있습니다.

b. Having evaluated these three areas the manager then determines his 나. 간리자는 이상익 3가지 부모을 평기한 다음에는 독표를 결정합니다.

objectives. This done, he develops short and long term goals to support 이를 결정한 다음 관리자는 이간은 목표를 띳발침하기

those objectives.  $\frac{11}{}$  By short range and long range I refer not to time in 위한 단기 및 장기 목표를 발견시킵니다. 본인이 말하는 단기 및 months or years, but rather how long it will be for this goal to be 장기라 함은 옆 이나 년 표시가 이니고 목표 달성까지는 그 기간이 accomplished.  $\frac{\Gamma_2}{}$  By example, for a steel company a short range goal is 어느 정도이겠는가 하는 것입니다. 여를 들어, 한 강철회사의 단기 목표란 to build a new plant and place it in operation -- perhaps a 5 year goal, 세로운 공장을 건립하여 이를 기통시키기까지 아마토 >년의 목표인터, 반해 while the long term goal is the return on the money invested to build the 장기 목표란 공장 건립에 투자된 돈을 회수하기까지 20억년의 기간을 plant -- which may take 20 years.

마하니다

D. Now let us continue with the discussion of the management 라. 관리 모델이 그림 1의 군사계획수립적 적용된것과 간이 약엔 model as it is applied to military planning (Figure 1). The model we 데한 논의를 계속합시다. 장비 수명 주기 지독 수립을 위해 유탁가 use for life cycle planning is divided horizontally, the top portion 사용하는 모델은 수평으로 구분되며, 맨 상단 부분은 장비 백차의 depicts the basic events of decision making, documentation and testing 필요한 결심수립, 문서작성, 시납등의 기본 시간들을 표시하고 necessary to deploy a piece of equipment. The bottom portion depicts 있읍니다. 맨하단 부분은 기본 시간들의 성취의 기이지는

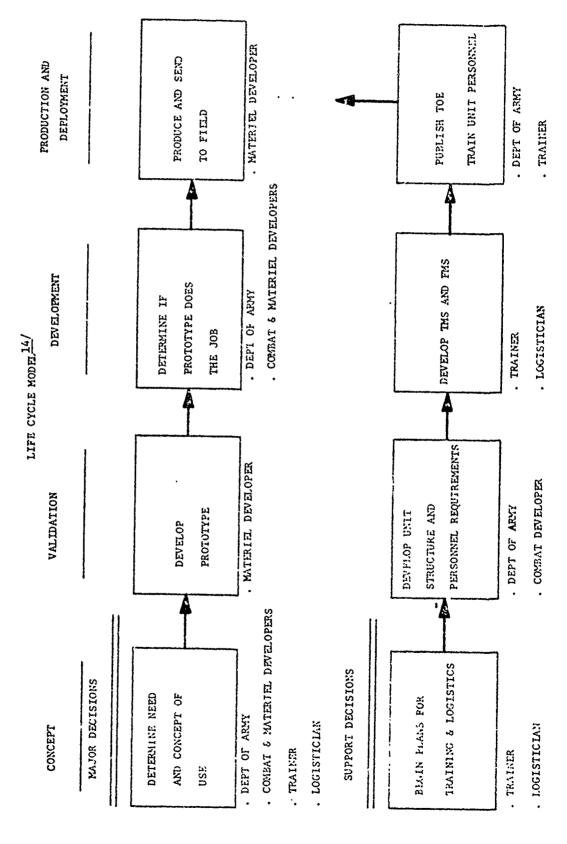
the additional supporting events which contribute to accomplishment of 추가적인 보조 사건들을 표시하고 있을니다.

the basic events. Normally a management model for military hardware is 통상 군시 부기의 끄러 모델은 그런게로 구분되는데, 그런거란 divided into 4 phases: concept; validation; development; and production 그님, 합법학, 기발, 생산 및 비학 입니다. and deployment.

The model at Figure 1 depicts this process in terms of the types 그림/의 모델은 수업된 경심의 중요와 노기 그씨만 결심을 of decisions to be made and whom it is that makes them. Note in the 하는 기의 방식으로 4단계 과정을 표시하고 있을니다. upper line of blocks that the major decisions are made, such as what is 필요한것은 무엇이며, 지말된 품목이 의도된 기능을 합니어는 시의 needed and if the developed item does its intended job. These are more 여부등 귀 값은 주요 급심이 수입되는 도표관의 윗부분선액 related to the high level leadership and concepts developers. 유의 하십시요. 이간은 결심사항은 수준 높은 직취증기 그년 line of blocks which shows the support decisions, is equally important. 연구관들과 관련십니다. 보조걸심을 개시한 아직부는의 선 역시 If the planning and preparation for the logistics and training is not 중요합니다. 근직 및 교육을 위한 계획 수입과 논비가 이네디지 않으면 accomplished, then as was noted earlier in the discussion, after delivery 앞서의 논의사항에서 지수간비와 간이 상비가 부디어 인도된 디급이 to the unit the equipment will soon or inoperative and the personnel 그 운용의 불계능하게 되며 인원은 교육을 반의 없게 됩니다. untrained.

E. Application of modeling in planning for the future of ROKA aviation.

다. 장치 한국군 항공구나 수입에 있어서 모습. 그의 작용
As can be seen from the late Cycle Model, the various parts of any system, 상부 수명주기 모델어서 볼 수인는 것과 같이 어떤 무기치가 기압, people, equipment, training can not be separated, but must be planned for 장비,고육이는 여러가지 부분별도 분의할 수는 있으니



as a coordinated action. To do this in talking about the growin of ROKA 기회수 법은 업포된 항통으로 학자 합니다. 근육은 강동 성상적 근학 aviation. It is appropriate to draw out each group of actions and then 연급함이 있어 이를 수 없이 이번 후 구동단의의 행동을 그림으로 부생하고 to depict their relationship.

이 값은 양동의 경우한지를 요우리는것이 무섭되느냐.

a. Aircraft systems: ROKA is well down the road on this area as 기. 항공기 역구: 부족의 필요하다 이번 품부욕 상대가 들었는

the decision on what is needed and what item of equipment fill, the 중도시기는지, 등의 관한 결심이 이번 수업되어 있는바약 같이 은국군은 requirement has already been made. The decisions which have not been 이 부분의 관력시 잘 신축되어 있습니다. 수립이 않던 결심시항은

made deal with the deployment of the alrevalt into units. Normally this 항공기의 보다 백자는 디무는 것입니다. 동상 이값은 괴성은 지수기손을

process bogins with the initial planning for the basis of issue and is 약한 회로 기록수이오는 회수님이, 상태 수성수기의 마바로 단계다.

done during the validation phase of the evels. The following questions 이렇답니다. 역구 조망을 걸성하여 있어서는 바람과 간은 must be asked in determining the issue plan:

의원을 움이보아야 합니다.

- 1. Are there qualitied pilots in the unit?
- 1. 유기적 조승 역계 위도에 있는 기기
- 2. Are there qualified maintenance personnel in the unit.
- 그. 유지건 경비 인원이 부탁이 있는 가기
- 3. Does the unit have physical facilities to maintain the aircraft?
- 3. 항공기밥상바람기 위한 시설의 포디에 있는지?
- 4. Is there adequate ramp or runway space?
- 나는 경우 이 가고 있는 그 수도 생각이 되고 있어 있는 것이
- 5. Once the arrepart is at the unit is the logistics network
- >. 의단 항공기가 보니 어 바람되면 되요한 언론, 단약, 및

established to provide the tuel, ammunition, and spare parts required? 수익 부족품을 중금한 군수 기통은 수별되어 있는지? As every unit will be in a different position with relation to these 이상가 같은 질문과 간편되어 모든 부대의 입장은 각기 다르기 questions, then those most prepared should receive the aircraft first. 때문에 가장 많이 준비되어 있는 부대가 맨먼저 항공기를 수명해야 합니다.

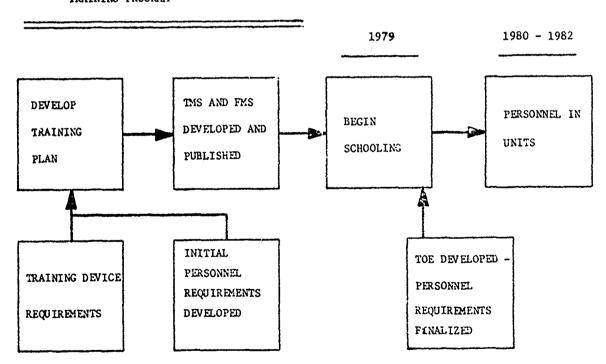
# PRODUCE AIRCRAFT TO UNITS

b. Training Program. As noted in the questions above, trained personnel 다. 교육 지회: 상기 집문에서 지적한 바와 같이 교육을 필한 are required. At the point that the decision is made to produc? the item, 인원이 요청 됩니다. 그품목을 생산하려는 급심이 수립되는

then training must begin. This means that training manuals, and Programs 순간에 교육은 착수되어야 합니다. 이든 교범가 POI 가 of Instruction must already be complete. Thus as the item goes into 이미 완전히 마련되어 있어야함을 의미합니다. 그리하여 그 품목이 생산에 production, the personnel to man it are being trained. They should arrive 들어가면 장비를 취급할 인원에 대한 교육이 진행됩니다. 피교육자는 at the unit just prior to receipt of the aircraft, while their training 항공기 수령 직전에 부터어 도착해야 하는 한편 이들의 교육은 is still fresh in their minds. Thus to do this in ROKA, the training 아직도 마음속에서 생소할 것입니다. 그러므로 한국군에서 교육을 plan must closely follow the aircraft issue plan.

### TRAINING PROGRAM

학니다.



The following questions must be answered to determine what training 이번 교육 계획 수립이 요구되는 가를 결정하기 위해서는 다음의 planning is required.

진무시항이 단변되어야 합니다.

- 1. How many aviation personnel will be required each year starting
- 1. 항공기를 부대에 보낸 시간부터 시작되어 때년 얼마니 at the time the aircraft are sent to the unit?

많은 항공 인원이 요구되는가?

- 2. How long will it take to train those needed the first year?
- 2. 첫해에 필요한 인원을 교육시키는데는 어느정도의 기간이 걸리는 가?
- 3. Is the Course of Instruction developed for that training?
- 3. 교육실시를 위한 교육가정은 작성되어 있는가?
- 4. Have the training publication been prepared for that Instruction?
- 4. 그 교육을 위한 교육용 발간물은 준비되어 있는가?
- c. Personnel requirements. The personnel requirements are based on

다. 인운소요. 인원소요는 그부대의 인가된 편성 장비표 the approved Table of Organization and Equipment (TVE) for the units.

에 외거 합니다.

These include not only aviators, but mechanics, flight operations 인원 소요에는 비단 조종사는만 아니라 수익공, 비행운용병, 연료 personnel, fuel handlers, and all the others needed to feed, equip and 최급자, 그리고 그 부대의 급앙, 장비, 및 이동등에 필요한 모든 move the unit. Once the TOE is developed then the management question 연원들이 포함 됩니다. 일단 TOE 가 작성된 다음에는 그 TOE 의

is, "How many personnel do we have now to fill those TOE positions?" 직위에 충당할 가용인원은 현재 어느 정도인가를 결정하는 것이 관리문제 This inventory of current assets then leads to other questions, such as: 입니다. 현재의 자원을 조사해보면 다음과 값은 또 다른 질문을 초래합니다.

- (1) How many personnel available now must be retrained?
- (1) 얼마나 많은 가용인원을 재교육을 시켜야 하는가?
- (2) How many new personnel do we need?
- (2) 우리가 필요모 하는 새모운 인원은 어느 정도인가 ?

- (3) How soon must we begin training to insure that personnel are in
- (3) 항공기가 부터어 도착함때 인원들이 부대어 있도록 하기 the unit when aircraft arrive?

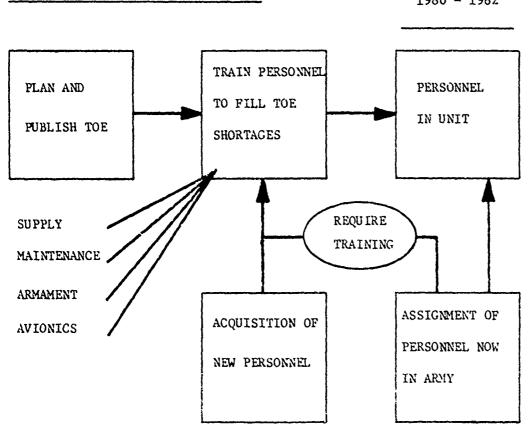
- 위해서는 우리는 어느 정도로 일찍 교육을 시작하다만 하는가?
  (4) How soon must enlisted personnel be brought on active duty to
- 항공 교육이 시작되는 때가 되면 사병인원들로 하여금 기초 have them through BCT in time to begin aviation training?

전투 교육을 끝마치기 하기 위해서는 어느 정도로 일찍 이들을 현억근무역 소집하는 가?

- (5) How soon must we bring officers on duty in order to have
- 비행학교 배당동을 충족시키기에 충분한 인원을 adequate numbers to fill flight school quotas? 확보하기 위해서는 어느정도로 일찍 장교들을 근무여 소집해야만 하는가 ?

PERSONNEL REQUIREMENTS 인원 소요

1980 - 1982



d. Logistics. The logistics espect of Total Systems Integration 마. 군수, 전체 시스템 통합의 군수부문은 종견의 일부주제들을 takes into account some of each of the previous topics. It depends 각각 참작한다. 이는 현존 항공기와 현직 인원, 그리고 이들이 이수한 on the aircraft being present, the personnel on hand, and their training

being complete. The logistician then takes the actions to insure that

그 다음 군수 관계간은 임무를 지원하기 위한 장비가 사용자의 수중에 the equipment to support the mission is in the hands of the user. Thus,

있는 가를 확인하는 조치롭춰한다. 그러므로 군수 문제는 the logistics questions must be:

다음 각 값은 것어여야 한다.

교육등에 의한다.

- (1) What maintenance tools and equipment are needed?
- (1) 어떤 정비공구들 각 장비가 필요한가?
- (2) What armament support equipment is needed?
  - (2) 어떤 병기 지원 장비가 필요한가?
- (3) Will the unit perform avionics replacement?
- (3) 부대는 항공 보충을 수행 할 것인가?
- (4) If the unit will do avionics work, are the spare components and
- (4) 만약 부데가 항공 수리 작업을 반다면 수리 부속품 가 necessary tools available?

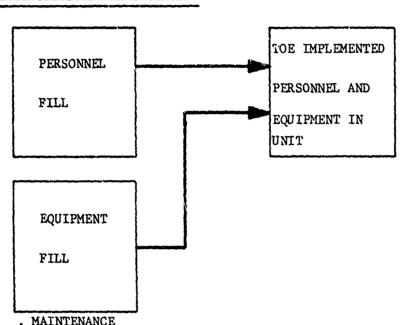
필요간 공구들은 가용한가?

- (5) What actions have been taken to provide all the necessary ground
- (5) 필요한 지상 지원 장비를 제공하기 위해 어떤 조치가 support equipment?

취해 졌는가?

- (a) Fire and crash rescue
- (가) 화제 및 추락 구조
- (b) Refueling
- (나) 연료 재보급
- (c) Survival/escape and evasion
- (미) 생존/도피 및 도망

## LOGISTICS PLANNING



LE ROMANION CONTRACTOR DE LA CONTRACTOR DE

- . MAINTENANCE
- . ARMAMENT
- AVIONICS
- . SUPPORT

e. Time Line. All of these separate actions can now be brought 마. 시각표 , 종합 분석을 할 수 있도록 상기한 별도의 조치들의 together to provide the integrated analysis. The easiest way to see 모두는 이제 종합된 수 있다. 이같은 작정을 파악 하는 this process may be to start at 1982 and work backward. 가장 쉬운 방법은 1982년에 시작하여 소급하여 일하는 것 ^^6

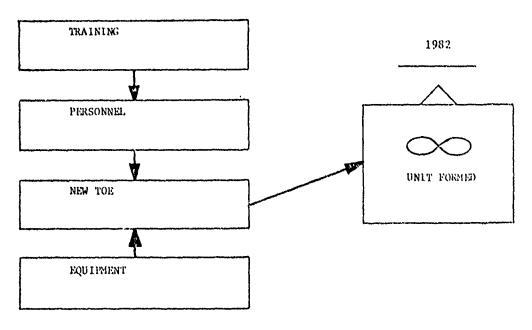
- (1) 1982: In 1982, as the projected year for the completion of
- (1) 1982: 한국군 항공개선을 완료하도록 객회된 해인 1982년에는 ROKA aviation improvements, all planning must come to completed action. 모든 계획 수립이 완료된 조치로 끝나야 합니다.

This may be our current long term goal, while each of the interim years 이것은 우리의 전해 장기 목표인 반면에, 그 사이의 해들은 각각 has short term goals. Therefore in 1982 we should see newly formed 단기 목표가 될 수 있옵니다. 그 먹으로 1982년에는 세로 창설된 항공 aviation units. They should be formed on new organization tables. be

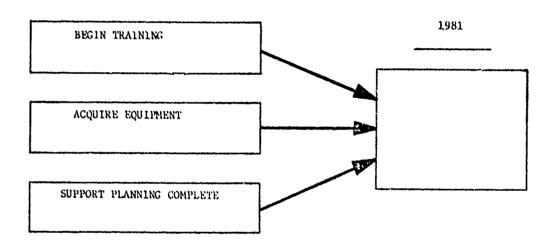
부대가 있어야 합니다. 세모 창설된 항공부대들은 세모운 편성표에 의해 편성 manned by newly trained or retrained personnel, and those personnel should 되어야 하며, 세모운 교육을 끝했거나 제교육을 받은 인문들이 배치되어야 have the equipment necessary to keep the aircraft flying on a continuing 하며, 이들 인문들은 항공기가 계속하여 비행 할 수 있도록 유지하는데 basis. The diagram below depicts this in terms of completed aircraft,

필요한 장비를 보유하여야만 합니다. 아메의 도표는 항공기, 교육, training, personnel and logistics actions.

인권 및 군수 조치등이 완료되는 조건에서 상기 사항을 표시하고 있읍니다.

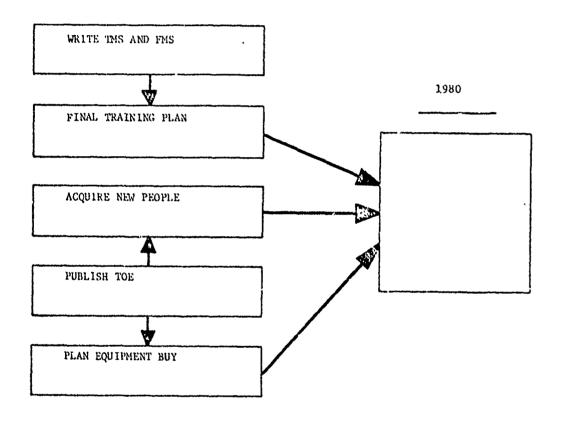


- (2) 1981: In 1981, planning must be complete and action begun.
- (2) 1981: 1981년에는 계획 수립이 완료되어 도치기 식작되어야 합니다. Those personnel to fly the helicopters and maintain and support them 헬리급하의 조종사들기 정비 및 지원 요원들은 교육에 들어가이만 must be in the training cycle. Additionally support planning must be 합니다. 추가적으로 지원 계획수립을 완료하고 필요한 공구, 수비 completed and necessary tools, parts, and support equipment in the 부속품, 지원 장비의 조담 처비를 합으로써 1982년에는 현품이 procurement cycle, so it will be on hand in 1982.



- (3) 1980: 1980 should be the year of final planning, decision
- (3) 1987: 1980년은 최종 계획수립, 급심수립, 그리고 making and first actions based on decisions. In that year the TOE must 급심에 의거한 최조 조치, 등이 행해지는 해입니다. 1980년에

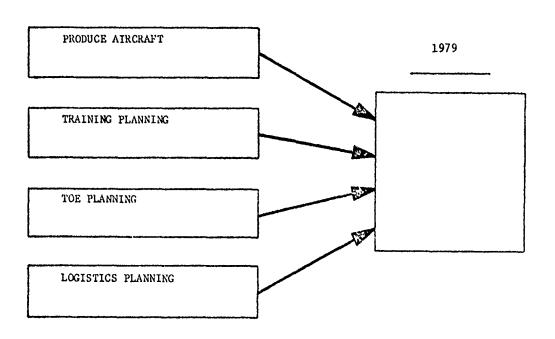
be published. This document will set the stage for all actions to follow 가 발간되어야 합니다. 이문서는 어떤종류의 인연, 고육, 및 as it determines how many, and what kind of people, training and logistics. 근수가 어느정도로 필요한가를 결정하는 것과 같이 모든 조치를 위한 단계를 설명한다.



(4) 1979: This year is the time of detailed planning and careful (4) 1979: 1979년은 세부계획 수립과 대안들을 지급하게 weighing of alternatives. The recisions made now will not have the 검토하는 헤입니다. 최초 부대 조종시가 지금으로부터 3년후

final outcome until the first unit pilot flys his first mission on some 어느날 아침 최초 비행임무를 할 때까지 수립된 결심은 최종 결과를 morning three years from now. For that reason, all aspects of the 초래하지 않을 것입니다. 그러한 이유 때문에 시스템의 모든 부분을 system must be integrated from the start to insure that the unit, in 1982 처음부터 통합하여 1982년에는 해당부대가 임무를 성취할 수 있도록 can accomplish its mission.

확실히 해야 합니다.



F. Summary.

To summarize this analysis, the Total Systems Integration approach 이상의 분석을 요약한다면, 전체시스템 통합 방법은 복잡한 가정이며, is a complex process, intended to insure that a fielded piece of equipole 실건백비된 장비가 의도된 임무를 관수하고 우리의제 유익함을 ment will accomplish its intended mission, and has proven useful to 임증하도록 확실히 하기 위해 의도된 것입니다.

us. This concept provides a method of decision making that guides 이 개념은 완전한 각정을 통해서 생각을 유도하는 교심 수입 방법을 thoughts through a complete process. Total Systems Integration 제공합니다. 전체 시스템 봉합 방식은 한국군 항공 성장을 위한 may be of value in planning for the growth of ROKA aviation. 계획을 수입함에 있어 가지있는 것입 수 있을니다.

Note: The time frame objectives established here are for example 주기: 어기에 설정되어 있는 시간적 목표는 실에어 불과하며 only and are not intended to be restrictive or suggestive. They do 제한 하거나 찍안하는 성격이 되도록 의도된 것은 이십니다. not account for the internal and external environment of the Republic 이들 시간적 목표들은 한국의 내부 및 외적인 환경을 설명하는 것이 of Korea and are made with no knowledge of current guidance of the 이니며, 한국 국방부 및 육군 참모총장의 현행 지침을 앞지 못하고 됐다고 Ministry of National Defense and ROKA General Staft. 작성된 것인니다.

IV. CONCLUSIONS

卫尺

To be determined by participants in the Management Workshop.

겉돈은 간비 연구보본짜의 식상에 참석하는 인원급의 의해서 Conclusions should be based upon the working present at ion and 결정된 것임. 겉돈은 길부진 강의 설명 및 변론에 discussion.

외거하여야 합니다.

## V. RECOMMENDATIONS

건의 사항

To be determined by participants in the Management Workshop.

견의사항은 관리 연구도론회의 식상에 참석하는 인원들에 Recommendations should support the conclusions.

의해서 결정될 것임. 건의사항들은 결론을 뒷받침하는 것이라야만 합니다.

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MANAGEMENT WORKSHOP TWO 관리 연구 집회 2

MANAGEMENT OPPONTUNITIES
관리 의 기회

ISSUE: MAXIMUM UTILIZATION OF AVIATION TRAINING ITIES AND 논제: 항공 훈련시설및 고관의 최대 호텔

#### I. INTRODUCTION

# 工 개돈

With the projected sharp increase in aviation assets for the Korean 어킨민국 党군의 コッテスト マイヤモ これす) ニャー エラー ラー エラー コーチョウ コーナー コーチョウ コーチョウ コーチョウ コーチョウ コーチョウ コーチョウ コーチョウ コーナー コーチョウ コーナー コ

바무게일 얼굴소요를 출랑 감 잊어야 한다.

The US Army experienced similar growing pains with the increased

의 국군도 의성에 기가 이 지수 기가 항상으로 이 아니다 이 기가 되었다. 다나서 가는 국군의 고로 보고 하나 보고 기가 있다. 그리고 있다는 이 시간 기가 있다. 그리고 기가 그리고 기가 보고 기가 있다. 그리고 기가 그리고 기가 되지는 이 기가 되지는 이 있다. 다나서 가는 국군의 고로 소보 증가가 되지는 이 강하는 to help lessen the impact of the increased ROKA training requirements.

II. PURPOSE

I. 목정

This issue paper will discuss and evaluate possible alternatives 여자서는 한국국군 항공고국소요를 골목시키기기한 to meet the ROKA aviation training needs.
가능한 선택 방안들을 5의 평가하고자 한다.

III. DISCUSSION

亚、至

Inere are several possible alternatives to meeting the growing 건글 가는 고로 소트를 출속 시키기 위해서는 몇가지니 training requirements. Three specific alternatives this paper will 서타 방난다 있다. 여기서 논하는 세가지 방반은 address are:
다음과 같다:

Unit Training of Aviators

조승사의 부대 교육
Fort Rucker Training of ROKA Aviators

강당국근 조승사의 듀라 Rucker 에서의 교육
ROKA School Training of Aviators

한국국는 학교에서의 교육

A. Unit Training of Aviators. If every unit assumed responsibility 가 보다 그건 그 보다 그런 모든 하고 부대가 결혼의 for initial aviation qualification and advanced aircraft transition, the 고수 자겨운건 및 고급 기존 전환 근건 채일을 가게 integrity of the unit and readiness posture would be enhanced. Each 된다리 부대의 건재 및 전투 준비 타세는 하다 될것이다. 가 unit would be able to maintain a larger number of personnel at unit level 부대는 달은 인권을 부대내에 구시 구수 있는것이다. 그렇 and unit strength would not be hampered by service school backlog. Un-자운이 의한 영광 강소가 있는 것이다. 그러나 fortunately, this would place a tremendous burden upon the unit to 물광가게도 이 23게 되면 막대한 그것 그 수 하는 기를 기존

establish and conduct a training program of this magnitude. Past 근 기를 가부대는 기게 된다. 마거 experiences show that most units experience difficulty just maintaining 기정전이 의하는 그 부대들은 항공하고에서 고육한 the aviation skills learned at the Aviation School.

기술수근은 유지 강단데도 어려울을 느끼고 있다.
Because of the decentralized nature of this training, standardization,

이러한 꼬로은 그 분산정 성경으로 보아 그 내용을 각부대에서 instructors and training aids would present a major problem. By giving 一次計計2000 of CHTIP 고바과 고보자를 갖추는 있는다. each unit the responsibility for training, the number of instructor pilots 기는 부터가 큰긴 책임을 갖는다면 고관 조용사 의 숫자도 로켓 needed would be greater. Each unit would have to be provided qualified 路上中 社及小四 型D或量对2 叶子中之叶. instructors, training materials and training aids. Standardization of

교학 내용이

the instruction given would be a major problem and require much 开汉孙笠 强色孙王 对对是他们 图片的 丘雷的 guidance and assistance from outside the unit.

필요 하게되다.

Lastly, unit training would inherently take more money and time than

끝도 부터 교육은 필연자으로 중앙진국자 교육보다 centralized training. One hundred percent unit readiness would be delayed 가보대 등 23M ECHZT 100 퍼센트 된과시안이 더 된다. dependent on each units capability.

주비대세유지는 지던된것이다.

B. Ft Rucker Training of ROKA Aviators. Another alternative to

나. 한국 소청사의 Fort Rucker 어머의 모음. 다른 선팅 meeting the training requirement is for a portion of ROKA personnel to 哈比山 沙叶岩 社务是正日社의 원부를 四美元 be trained at the US Army Aviation Center. Realizing that agreements 对是 XUELONG 卫青 对之 及几个, OIZI社 影出的艺

of this level require military and State Department coordination,

국방성 및 국무성급 합의가 필요하기는 하기자 nevertheless it does represent an alternative that should be evaluated.

计分出 1062是付 对意当 가치가 伙计.

In the mid-1960's this type of program was initiated for training

60 년대 중반에는 영화 조용사를 흘러지기가 하나 Vietnamese pilots at Ft Rucker.

이 1사들가 처럼 되었다.

The major advantage to Ft Rucker training of ROKA pilots is that it

Firt Rucker 이서의 고호의 구요 잇접은 可是又以 could greatly decrease the training load in Korea. By having both Korean 하는 기계에 의로 바다를 크린다는데 있다 하는 다 야걸의 and American aviation training programs, the personnel shortages could 이 의 부탁은 보다 에게 おうりす )利男主 今初 ないるM be filled quicker with less stress on the training system. Acaitionally, 动观到今级时。

more ROK aviators would be familiar with American aviation equipment.

3년국 소용사는 등이 의국의 항공2상에에 보다 익숙해 Zicr는 강설=兴다.

Perhaps the best utilization of Ft Rucker training would be to train

아바로 가장 출원 lob 조는 Fort Rucker 이너 ROKA instructor pilots. By taking qualified ROKA aviators and training 고간요된 소로사를 큰데시키는 것인지도 모른다. 자기를 갖춘 them at Ft Rucker as instructor pilots, it would provide the additional せるをなせる 立むからと きれんなしろれ からちそから かつの instructors needed for the ROKA Aviation School. This would allow the 구가 교관은 제공 한수 있는 것이며 최초 조종 금간이 RCKA Aviation School to use maximum facilities for initial aviator 시설의 최대 이동을 가능케 한 깃이다.

training. These Ft Rucker trained instructor pilots would provide the

이들 미국 에서 고울받는 고관 요생기들는 backbone for the ROKA training program plus be familiar with the

중간 교육 계획의 공수를 이를 것이며 또한

US Army equipment and tactical flying procedures.

지배 의행 전화된 이숙하게 될것이다.
The greatest drawbacks to this program are the cost and State

이 계획러 최대 난지분 비용리라는 변과 국무성과리
Department coordination required.

협의 된보성이다

ROKA School Training of Aviators. If we assume that the ROK

다 한국국국 기고 교육 보는 한국 국구에 외투의 Army, without substantial outside assistance, will train the necessary

사망한 돌급이 있어 필요한 그룹 사를 꼬눅시키다고 aviation personnel, ROKA must make maximum use of its aviation training 기가 하는다면 한국 호크는 가를 그건 시연한 최대로 한당 facilities. In order to meet the goal of 1805 trained aviators by 1986, THOF 같은 두발한 필요도 따나 또한 1986년 가지 1805 년리 the ROKA Aviation School must maintain maximum student training levels. 圣香外是的的社员 鲁金克格曼与沙州之 可读分表到时 地名 治人 The primary concern of the Aviation School would be to accommodate this 品对部外之口, 이에四 관심人地 安元 就是对了外 이를 수용 maximum pilot training. 站台处此 浙江山叶.

As the number of helicopters increase within ROKA, the number of fixed

학교의 한민국타수가 증가하면 고정의 항공기수는 wing aircraft will decrease. Because of this, pilot training will have · 카트 것이다. 

회전의 조성사는 버릇하고 고정의 조정사는 중이트를 조정 pilots. The need for more helicopter pilots plus the addition of the 겐기공타 소중사의 금가 된 성 명 2824 중차 비행 至10年沙叶. 2B24 Synthetic Flight Training System may indicate a need to restructure 크면체계 의 첨가 필명은 한국 중단 항공 항의 교과과양 ROKA aviation training.

2双切水型 到约之时,

Within our US Army we also experienced a similar transition period.

미국구의 있어서도 이가 뉴사카 변환 기간을 가장하였다. Eighteen years ago most of the US Army aviators were trained in fixed

18 단자에는 미국군 소중사의 대부분는 고경숙 항공기 wing aircraft. Helicopter pilots were transitioned from fixed wing 마찬 한 반 있었다. 한 기원 Et 고속사는 고객의 소송사 인수터 pilots. As the numbers of Army helicopters increased we changed to 진한 및다. 국근 객기큐타 수가 증가 붉=3에 달등 크랑사는 teaching all pilots in the helicopter. Fixed wing pilots were transition 렌리콘마 파숙한 받은 바뀌겠으며 고정의 소송사는 행기콘타 生子的双致多中一一日气 多对对别是 超过多计分外 helicopter pilots. 자지는 감구는데 지는 키었다.

ROKA may benefit from a similar program. Eventually, the instrument

한국국교로 유시한 계획을 가지면 또한기킬것이다. 궁극정니킬 pilot course might be taught in the helicopter. More helicopter pilots 행기RCHNNE 계기조랑 과정는 가은횟수 쌓다 영다 않는 will need instrument qualification and fewer fixed wing pilots will be 到四元十 五部一十 게기 조종 자지를 필요를 학火的 고장의 needed. Those fixed wing pilots who need instrument training could 그러나는 보다 전게 필요한 것이다. 가비 크건나 필요한 그지각 그러나 receive this training in the fixed wing pilot course. This would allow 고경역 조로사 과당에서 이런 고경을 받을 수 있는다 for greater use of the 2B24, SPTS, for the Instrument course. 되는 보다 바로 사내 1 2824 중밖에 항공연체에 즉 · 병반들 리메란다

Besides pilot training, crew chief training may benefit from a

조종사 크건 뿐만이 하나가 장비 조각 흥간도 변경된 reorganization. The US Army has considered consolidation of all crew 고가과경에서 이익은 복育 있다. 미국권 모든 장비크는 골건 및 chief and mechanic training. We have found that crew chief and mechanic なりをうれるかりとはなえ、27 数でと 如中が回 は強さ

crew chief personnel would be much easier.

외건 교회의 표준하가 현신 의치길 것·1다

These two examples are just a few of the areas which may benefit

이 되가지 에는 개편에서 만을 있는 러가지 이익을 from reorganization. If these actions are not suitable at the present, 인병에 불가하다 보고 이같은 조키가 건지에게 되는 기용하는 가지 이 하는 전에 가지 아마는 것이 글래된 기용하다 그리는 기가 있다는 것이 글래된 기용하다 그리는 것이 글래픽 사이다

Each of the three alternatives we have addressed has its own merits.

AN EN はらせる フロ ユスカニ スコリント.

The best solution for ROKA may be one or a combination of the three options.

하는 그 국 그 기가 회사의 해결 나는 그 중의 화제선터 또는

Most important is that you determine the overall objective and "tailor"
서가지 바네는 합가어 그정된만 테하는 것인 것이다. 기장경로한 것은
a program that will best suit the overall plan. If US Army Aviation Center

하기일이 지기기에 있어 각 있는 목표를 건지되었고 거기에 따라 기계으로
assistance is required, carly determination of the specific requirements
"지다" 카타는 지입이다 보이 기 보는 가공 소비나의 드름이 되었다면

would facilitate Ft Rucker planning.

그 전원한 등 보이 어떠 것인가를 되고 알겠구는 것이 일을 싫게 할 것. 다는

## IV. CONCLUSIONS

# 取. 对是

To be determined by participants in the Management Workshop.

본 기간 연구된 기업지나들이 비커 건강되었다.
Conclusions should be based upon the Workshop presentation and
기밀콘은 본 다구된 제시된 사랑과는 토리 내용이 입각해야 되는 discussion.

#### V. RECOMMENDATIONS

To be determined by participants in the Management Workshop.

보 하기 회사기 등에 비해 계정되었다.
Recommendations should support the conclusions.

过光的外部之 对至于 지지剂中站

ISSUE: USE OF CIVILIAN FLIGHT INSTRUCTORS TO FREE MILITARY PILOTS. 논제: 군 조국사 부담을 덜어구는 민간인 비갱 교관의 혼용 I. INTRODUCTION

그 거론

고관 한번을 찾아내거나 고복 시키는 일이다

파 목적

In this issue paper we will discuss the use of civilian

이 들은 이에 논비되게 그는것은 국군 항공 부터에서 instructor pilots to augment or free military pilots for use in ROKA 질로한 군인 조목자를 보는 가거나 그 수요부단을 던거리게 만간인 aviation units.

교관 조종사를 활용하는 문제이다.

III. DISCUSSION

正 至当

In the Reorganization of Aviation, we identified the sharp increase

하는 구크리 가다면 보니하다서 우리는 고급사 글건리 살짝한
in pilot training. To reach the goal of 1805 pilots by 1986, maximum

그나를 하는 기가 1986년까지 1805 만경기 그룹사 글건 그는 보신을
use of qualified personnel will be necessary. The U.S. Army has found

의기시는 자꾸것은 모인이 길다 크는 이를 하는 그러는 다른 그리 그래한
that by using civilian instructor pilots we can conduct our aviation

나건도 되가 그가 모면을 이를 하는 길서 그렇게 그렇게 그렇게 수가 가는
school training and also provide a large number of military instructors

기기기 드라는 마음은 소개의 그리고 모르는 가는 그리는 이를 가는 그리고 다른 그리고 그리고 다른 그리고 그

for use in aviation units. There are several ways to make use of 以5속 제공 본수 있었다. 민간인 고인을 활동하는데는 civilian instructors. Three we will address are: 以らき 知るなら はないし 떨가지 방안이 왔다 에게서 제시킬 제가지 방안된 다른사용다

Use of ROK Army Civilians

한국 국군 문관 활동

Korean Contract Flight Training

되가 하나나 그 그녀들이 되고 이란 음란 Third Party (Non-Korean) Contract Flight Training 利 3 3 24 29 信用出記 目的言語

A. Use of ROK Army Gazilians. The Republic of Korea could seek out 가. 한국국군부가 한말. 국군 하는 아이 교건들인 and hire qualified civilians with prior flight experience to fill 자기를 차하기 위해 과거 조조 지형이 병을 국사적 근건성을 instructor pilot positions at the ROKA Aviation School. This type of 我可以 二号智行外以时。 program is dependent on there being qualified civilians that are 계화되 성공 이유는 경건을 받았거나 여는 즉시 고관 되었다. trained or could be quickly trained as instructor pilots. Within the 제공만되는 쌓는 민간인이 확인가능한가에 당겨났다. US Army, the civilian instructor force is largely composed of former 민간인 고간 우리의 대부분은 군에서 제대나 되었한 military pilots who have retired or separated from active military

마기의 조금사 2/1 구시되었다. service. By using former military pilots, the cost of training them

전비 근 조용하는 학병에게하다는 그들이 그것을 is not lost but spread over a longer period of time. Additionally, 의해 과기특별한 네용이 손심되지않고 더 작하나 되워 살산되는 past US experience has shown that retired military pilots with many 경과도 되어 또한 외국의 경하에 의하면 티막은군 라 years of experience make very good instructor pilots.

들는 과서의 다던난 들시한 지점 때심에 극관한 고만에 되는 있다

Korean Contract Flight Training. Another possible alternative 나. 되간 호(사라의 기이루 이 의한 후 2년 가능한 다른 With is to contract with a Korean firm to provide all or a portion of the からな とと はいり 하나는 한국 민간인 회사가 예약을 받고 최초 조명 로인의 전부 initial aviator training. At the US Army Aviation Center we have found 건 인무를 제공 반는 것이다. 미국군 항공 女따라 의 경우 최초 it cost effective to contract a large portion of the initial flight 비행 혼건의 많은 부분을 띠간 계약이 의존하는 것이 비용 효과적인 training. DOSS aviation, a civilian contractor, teaches primary and 것을 받고 沒다. 민간계약화사인 DOSS 카라가 기본및 게기 instrument flight training at Ft Rucker. This frees military pilots 비캠크건호 Fort Rucker 이서 행한 있다. 이렇게 하는 2서 근 to fill unit positions and decreases the military instructor force 고경사들의 부대 보신을 용시하게 가면 항공 학교는 물론 전 육군을 required both at the Aviation School and throughout the Army. Because 흥한 군 교관 소부를 국민수가 있다 Korean Air Lines is the largest civilian aviation firm in Korea, they 항공 이 가격에서는 한테 민간 항공 회사 이기 때는데 나면도 could possibly satisfy such a contract. KAL is already actively engaged 이건 계약을 빨각수 있을지 모른다. 다가한 항공는 이외 "뉴스사의 in military contracts for the manufacture of the Hughes 500 M-D. Many 500 M-D 헝가운타 제작 기약을 벌는데 맛다 US aircraft manufacturers have pilot training programs for their customers. 미국 항공기 회사의 여것은 그들 고객들기한 고실사 로맨께화들것고있다. Even though civilian contract training may not be feasible for an 만인 민간 케야 크건이 고등기간에 건가에 불가능하다 extended period of time, it could provide a short term relief until 型NAL 世界대의 무辛公童 多时整个《是cou 》以 多岁色 sufficient pilots are trained to fill unit aviator shortages.

조정사는 확보하는 단기간 응급 조기는 되수 있다.

C. Third Party (Non-Korean) Contract Flight Training. Another

We have briefly covered several alternatives. Each has to be 이 知 はなけれ ためいけませる ませか などり ピスト. evaluated as to how it could best meet the training objectives, both フィッショ じょせき せい ウストロス の 見れれる カばり

near and long-term.

四支全日至 沙沙沙 意美人观众 然小 沙上 孔粉的对 两个的中部叶 IV. CONCLUSIONS

亚. 对笔

To be determined by participants in the Management Workshop.

본 연구함 크는가가 비행 건강 된 것을
Conclusions should be based upon the Workshop presentation and

222年 双灯人的发 医月对升的的方部的意 discussion.

#### RECOMMENDATIONS

212113

To be determined by participants in the Management Workshop.

본 四子到 ないれかの とうり つきなる以外

Recommendations should support the conclusions.

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This list of US Army abbreviations may help clarify abbreviations 항공 정비의 간계된 약어들은 아래와 같이

related to aircraft maintenance.

기술 합니다.

AVIM AViation Intermediate Maintenance 항공 중간 정비 AViation Unit Maintenance AVUM 항공 부데 정비 Depot/overhaul maintenance D 창 정비 Direct Support maintenance DS 직접 지원 정비 Direct eXchange DX 직접 교환 General Support maintenance GS 일반 지원 정리 GSE Ground Support Equipment 지상 지원 장비 Integrated Direct Support Maintenance IDSM 통합 직접지원 정비 ORG ORGanizational maintenance 부대 정비

ISSUE: US ARMY THREE LEVEL MAINTENANCE SYSTEM VERSUS ROK FOUR LEVEL. 의제: 미 육균 3단계 정비체제 대 한국군 4단계 정비 체제

I. INTRODUCTION 기를 요

Prior to the 1970's, US Army Aviation used a four level maintenance 1970년 이전에는 미육군 항공은 4단계정비 개념을 적용 concept. The four levels consisted of 1) Organizational (operator & 학였음. 4단계정비는: 첫째 부대정비(사용자 및 부대),

unit), 2) Direct Support (DS), 3) General Support (GS) and 4) Depot. 문짜, 직접 작은 정비 (DS ) 셋째, 일반자운정비(도) 및 넷째, Around 1975 the US Army reorganized its aviation maintenance into a 창정비 1975경에 미육군은 항공정비 체제를 3단계로 three (3) level system: 1) Aviation Unit Maintenance (AVUM)

Three (3) level system: 1) Aviation only Maintenance (Avor 전환했음. 즉 첫째, 항공부대 정비. 둘째,

2) Aviation Intermediate Maintenance (AVIM), and 3) Depot. 항공 중간 정비 및 3 창정비

II. PURPOSE

목 적

This issue paper will explain the new three (3) level maintenance 당외제는 한국육군에서 현재 적용되고 있는 나단계 정비 concept and compare it to the four (4) level concept that is being used 체제에 제해 미육군의 3단지 정비개념을 비교 설명 currently within ROKA.

하는 것임.

III. DISCUSSION

들 의

The basic philosophy behind the four (4) level maintenance 4단기 정비체적의 기본적인 이념은 특히부대장비 단계에서 사용불가 structure was to "remove and replace" unserviceable components, 부품을 제거하고 교체하는데 있음.

especially at the aviation unit level. The divisional and non-divisional 사단 및 직할 수송 항공 정비(직접 직원) 부대

transportation aircraft maintenance companies (direct support) provided 부포요 수리하에 사용부대에게 돌려주는 인무를 a "repair and return to user" service. At the higher levels (general 수해한다. 상급(일반지원및 창 ) 정비중되 들은 support and depot) the maintenance companies provide a "repair and 부품은 정비하여 보급소로 전불증하는 업무를 맞고 있다.

With our increased aviation requirements during Vietnam, we found 보난전쟁증 우리들의 항공지원 입무가 증가됨이 따라 a need to increase our repair capability at the aviation units. 미요군은 항공부데에서의 정비능력이 향상되어야 함을 깨달았음. formed small teams to conduct limited component repair at the aviation 우리들은 항공부대급에서 전한된 부속정비를 할 수있는 작은 정비탑 즉 unit level and called it Integrated Direct Support Maintenance or 통합직접지원팀 도는 IDSM 을 신설하였음. IDSM. IDSM was the addition of skilled personnel and tools in order IDSM 은 항공부대가 특수량의 직접적인 정비를 할 수 that the unit could accomplish a specific amount of direct support 있도록 기숙요원각 공구들을 증가 시킨것을 말함. maintenance. This provided the aviation unit with the ability to 이것은 각 앙공부대가 항공기의 작은 파손은 상급 정비 repair minor damage to aircraft without evacuating it to a higher 부대로 후송하지 않고 직접 수리 할 수 있는 능력을

level of maintenance. Unit readiness was greatly increased and aircraft 제공하고 있음. 이로인해 부디 전투능력은 향상되고 down time greatly decreased.

방공기의 불가동 시간은 단축되고 있음.

return to the supply system" service.

Following Vietnam, the US Army conducted a study on aircraft

윋남전후 미 육군은 항공기 정비에 대단 연구를

maintenance. As a result we restructured our aircraft maintenance into 실시하였음. 결각로 항공정비체제를 3단계 체제로 1-89

the three (3) level system. This new system had several advantages
지구성 하였음. 서 전도는 전투작전에 관련된 항공
especially for units engaged in combat operations. It provides more
부디를 에게 이러가지 이점을 갖이고 있음. 이 전도는 항공
maintenance support closer to the aviation unit. The aviation unit has
부디를 에게 디 만은 성박지원을 직접 지공하고 있음. 항공 부디가
a greater repair capability. Aircraft need only be evacuated once to
디 콘 정비능력을 보유하게 됐음. 항공기들은 디향부품을
repair or replace most components. In effect this change redistributed
과어야 납째만 추상함. 이로서 이 변경된 제도는 피지원
the responsibility and authority to accomplish specific maintenance
부디에게 특수한 정박 책임과 권한을 부여 학였음.
closer to the supported unit.

Let me explain in more detail about each of the new maintenance 각 정비 지원 부대의 임무를 자센하기 설명 하겠습니다.
units. We will talk about why the reorganization and which maintenance 외 부모를 지 면상하고 도 정비 임무가 어떻게 functions were effected.
저축되고 있니 토의 하겠음.

A. Aviation Unit Maintenance (AVUM). AVUM is in reality a con-당공 부탁 정박 (AVUM) AVUM 은 실찍도 상기의 통한 solidation of the earlier Integrated Direct Support Maintenance (IDSM) 직접지원 정박 (IDSM)의 총괄인 것입니다. into the units. It incorporated normal organizational maintenance (operator 작건은 보통 부드정박 (기인 및 부탁)와 이전의 직접적원 and unit) and about 60 to 70 percent of what was formerly direct support 부탁가 다른 정박의 600 탁지는 700을 통합한 것입니다. maintenance. AVUM is allocated to all aircraft companies that have 10 AVUM 은 한가의 항공기를 10탁의상 보유하고 있는 항공 or more of one type of aircraft. Units with less than 10 aircraft do 중드를 에게 실시하고 있습니다. 10탁 막만의 항공기를 보고 not have sufficient work load to effectively use the additional personnel 하고 있는 항공 중데들에게는 증가된 기술 요원과 장비들을

and equipment. Units without an authorized AVUM get their direct support 유효하기 사용할 수가 없을니다. AVUM 이 인가되지 않은 부터들은 from Aviation Intermediate Maintenance (AVIM) companies.

항공중간 정비중대로부터 정비지원을 받고 있음.

The AVUM activities are equipped and staffed to perform high frequency,

AVUM 의 역활은 자주생기고도 아주 적은 시간을 요하는

"on-aircraft" maintenance tasks requiring little time and that will 항공기 정비를 맡아 항공기가 가동할 수 있도록 장비와

return the aircraft to a serviceable condition. The AVUM functions are 인원이 구성되어 정비업무를 맞고 있는것을 말함. AVUM 의

limited by the amount and complexity of ground support equipment 이무는 지상지원장비, 필요한 시설과 인원 및 특수기술요원

(GSE), facilities required, and number of spaces and critical skills of 이 상급 지원부디역 비해 제한된 양을 보유하고 있음.

personnel available. In effect, the aviation unit commander has the 이로 인해 항공부데장은 중 대니에서 제한된 정비를 수행하여

personnel and tools to perform limited repair within the unit and get

이 항공기들을 입무수행에 투입시킬수 있도록 인연각 공구 the aircraft back into action. This decreases "down time" and often 를 가게 되었음. 이로서 항공기의 불가동 시간을 쏡이고

eliminates the need to evacuate the aircraft. Overall this mainterance 항공기를 지원부대로 후송시키는 회수를 줄이게 됨. 전반적으로 이러한 is more responsive.

정비제도가 더 실효적 입니다.

B. <u>Aviation Intermediate Maintenance (AVIM)</u>. What was previously 항공 중간정비( AVIM ) 상기기술된

known as direct support and seneral support aviation maintenance com-직접지원과 일반 항공지원 정비 중대들이

panies was consolidated into Aviation Intermediate Maintenance (AVIM) 항공 중간 정비 중대로 통합 됩니다. companies. The maintenance activities e. AVIM are a combination of 항공 중간 정비중 매와 정비 잘동은 항공부때

the remainder of the direct support functions not allocated to AVUM. 정비와 대부분의 일반적인 부탁의 업무를 전의한 모든

plus most of the general support functions. The AVIM company can also - 직접 지원 업무를 받고 있옵니다. 뿐만이니며 당공

perform AVUM maintenance on their aircraft or aircraft belonging to 중간 정벽 중에는 항공 부드 정벽 업무의 같은 종류의 등공기 / 때

units with less than 10 of one type aircraft. Those maintenance - 미만을 보유하고 있는 부대의 중비도 잘 수 있읍니다. 이 정비

functions which are time consuming, require major component disassembly 의무는 시간이 많이 소요되며 본 부분품의 불미를 요하며

and are not conductive to sustaining air mobility are assigned to depot 장급 지원부터처럼 공수 능력이 필요하지 않는 정도의 정비 업투들

level. 반고 있음니다.

> Basically AVIM units make repairs on the aircraft which do not 기본적으로 항공중간 성비부대는 큰 부품의 불리듩 요 하지 않는

require major airframe disassembly. They can repair components that do 정도의 정비를 받고 있을니다. 이 부대는 제생을 필요로 하지

rot require rebuilding but simply replacement of sears, cleaning, or 않고 간단한 씵 고환, 소제 또는 보통 부속품을 정비 값 수

items of common hardware. The AVIM company provides the direct exchange 있을니다. 항공 중간 정벽 중에는 성공 중매약적

(DX) capability to the unit. AVIM has a greater inspection and repair 직접 교환 업무로 받고 있습... 항공승간 경비 부탁는 항공 부닉의

capability with the mission of getting the circust back to the user 비때 빠는지일니어 항공기를 급경하고 상비하여 시용부대 in a short amount of time.

이게 보내는 있는 능력을 갖고 있음.

The Aviation Intermediate Maintenance company is back up support for 항공 중간 정비 중대는 항공 부디 정비를 보충 직원

AVUM. If the AVUM unit is overloaded, the intermediate company 가는 것임. 만일 항공부터 정비 업무가 너무 많을 때 중간 정비중 데는 can relieve the load and help them to get maximum number of aircraft 보다 많은 항공기기 작전역 참여 남 수 있도록 항공 중 데의 back into action.

정비를 도울수 있다.

Depot maintenance has picked up the general support functions that 창 정비는 많은 시간을 요하고 보다 중요한 정비 및 복잡한 were time consuming, major repairs, and required sophisticated 장비를 필요도 하는 일반 지원 정비 업무를 equipment. These functions normally would tie up the intermediate 말지 된다. 이러한 기능은 보통 중간 정비 중도와

maintenance and not get the aircraft back to the aviation user quickly. 업무 연락을 갖게 되며 사용부대와는 밀접한 관계를 갖춰 못한다.

In taking a retrospective look at the three level maintenance we 이 3단계 정비 체제를 도비면 보건데 우리는 몇 가지 사실을

see several factors. Foremost is that maintenance and repair of aircraft 알게 되었음. 중요간 것은 항공기의 정비 및 수리 업무가

is conducted as near to the unit as possible. Emphasis is placed upon 기능한 한 중대 근처에서 수행되고 있다. 고장난 항공기를 즉시

getting the damaged aircraft back into action. Components that can be 작진 역 투입시킬것을 강조하고 있다. 쉽고 또 빠르게 수리 될수

easily and quickly repaired are done so at AVIM level and placed back 있는 부품은 중간 정비 부데 메벨에서 수리하여 다시 보급 될수

into the supply system. Aircraft that cannot be quickly repaired are 있게 한다. 즉시 수의 될 수없는 항공기는 큰 눈의를 할 수

evacuated back to depot where the time and equipment for major repairs 있는 시간과 장비를 갖이고 있는 창으로 추송 된다.

can be used. Our experience with this new maintenance reorganization 세로 면정된 정비 세제는 우리들의 경험으로 볼 때

has shown that cost are reduced through better utilization of personnel 인원기 장비를 유료하게 운영하으로서 이산을 제간할 수 and equipment.

있나는 것을 알게 되었음.

IV. CONCLUSIONS

7

To be determined by participants in the Management Workshop. 운영 도도 의원적 경력적에 의해 결정되었음.

Conclusions should be based upon workshop presentation and discussion. 급도은 분기 의원회의에서의 전도에 의해이 다.

V. RECOMMENDATIONS

건 외

To be determined by participants in the Management Workshop.

운영 소소 의원학에 참석자에 의학 결정된

Recommendatects should be based upon and support conclusions. 걸의는 결문에 의해 결정되어의 전략.

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ISSUE: CONTRACT MAINTENANCE AT DEPOT LEVEL. 문제: 강급 계약정비

I. INTRODUCTION

서 콘

Because depot maintenance is the highest echelon of aviation 강경바 가능기가 가장 출근 제지 기계이므로 고도의 흥산을

maintenance, it involves numerous tasks which require highly trained 보는 인권과 경관한 상대를 오기는 많은 업무가 과리되다

personnel and sophisticated equipment. Those repair procedures which

require considerable time and equipment are allocated to depot level, 이거 때문 기 강급이 베정된다

often for economical reasons. Reasonably so, the best trained and 그렇게 하는 것이 할당하다면, 보고 수준이 큰신은 반지 가장

most experienced maintenance personnel are required to perform this

정길이 핥는 성비트원들이 이 수준가 수이를 과야만 한다

level of repair. With the anticipated increase in ROKA aviation assets, 한국 육군의 항공자산 증가를 예상한다면 참/오바홀

provisions must be made to perform depot/overhaul maintenance.

정비를 실시할 준기를 가루어야 한다

II. PURPOSE

목 적

This paper will address four specific options available to ROKA 이 문서는 한국국이 창절하는 제공하기 위해 축구에서 이용할 to provide for depot maintenance. It is not intended that these 구 있는 명확기 보기 선택하는 표근의 기선택하기 하는 options are the only answers but most likely. The four options are

options are the <u>only</u> answers but most likely. The four options are:

Total Military Depot Maintenance 신식인 군 장정비

Military Control with Korean Civilian Employees 인간 공본(기 함께 로이시 통계

Korean Civilian Contract Maintenance 하국 건가 : 계약 장비

Third Party (Non-Korean) Civilian Contract Maintenance 제3쿠(비한국인) 밀간인 계약 장비

III. DISCUSSION

Ĭ

재산목록에 정말한 리번엔진 항공기의 필도가 비고적 갖다는

ROKA inventory. As a result there are few military maintenance personnel

것이다 그 실기를 세우적인 러분인간 수리 경험을 가진 군정비 with detailed turbine engine repair experience. In order to provide

9월이 거이 없다. 전적인 군 강정비를 제공하기 위해기를 total military depot maintenance, ROKA must train numerous personnel

한국 육단 왕은 안전후 정말은 장비 및 행기 체계 계계시

on sophosticated equipment and aircraft systems. This places a large 고수를 지기가 는다 이는 고수계를 지기나는 부탁한

load on the training system. The Hughes 500 M-D and AH-1J are relatively

代月子が見す 京上 500.MD 및 AH-1Jゼ 引で引きる

new aircraft and it is not anticipated that depot maintenance work will 항공기 아이 장기의 작업을 당장 원고로 활 것으로 예상하지

be needed right away. This helps to partially relieve the immediate

黑中 아 당장 필요도 하는 것을 구분적으로 가마 변체하는데

need. That would allow for maximum training of depot maintenance

도금이 되다. 또는 다른하라기에 대한 강정비 또는 에게

personnel for the other aircraft.

화기인의 운전분 제 제 중 것이다

Besides personnel requirements, we must consider the facilities needed 신원소호 광고도 우리는 창장이는 하는데 필요한 시설한

to perform depot maintenance. A large facility stocked with many special 卫科神中 沙口 海洋学学外 科普高量 对多量之外线 tools and repair parts would have to be located or constructed. This 골식해 내가나 아버먼 전환을 해야 한다. 하를만 하고만 would take much time and money. Possibly even several facilities may 많은 시간과 자급이는다. 신간이를 모든 장에 시설을 한것에 be desired to keep from "putting all our maintenance eggs in one basket." 지승시가는 가실을 방지하기 귀에서 여러게의 기본을 보고하기 귀에서 여러게의 기본을 보고하기 귀에서 여러게의 기본을 가게 avionics or armament systems. So we see the tremendous requirements 필요의 시설이 필요하다. 그러므로 구기는 당면한 소로가 드대받는

当江

we face.

B. Military Control With Korean Civilian Employees. Presently, 한국 기가 그러지 구기 군에서 구기

depot maintenance is performed on ROKA OH-23's and O-1's by military

현재 한국원의 애 23과이 한당기의 창정계는 수 뜻 인간 고등인과 depots with numerous civilian employees. This concept may also be

함께 군장제 의해 실시되고 있다. 또한 이 개인은 앞으로 제한된 suitable for the projected depot maintenance requirements. Unless there

강정비 소의 에도 직접한 것이 될 수 있다. 성일간 강공기의 are sufficient civilians with sophisticated aircraft experience, it

想是 外型地區的 多星的 双 经证 也 的 而不可以是 川村區

would still require a large training program. Former military mechanics

오라기 될 것이 이 의적은 제꾸 예는 건의 근심비나는 would be a good source of personnel to fill these positions. Addition-

乾 1月以为日至次1日

ally, the military would be competing with Korean Air Lines for qualified 부가에서 군대는 국자주 민준인을 구하기 위해 대한 항공과 경쟁하기 civilians. This option would still require ROKA to provide a large 된 것이다. 이 선택하는 국간으로 화여를 가다면 시설을 제공하고 공구와 facility and equip it with the tools and repair parts. Experience with 수의부족들은 가주게 될 것이다. 에는 23 과 0-1 에서 있는 경쟁이 the 0H-23's and 0-1's will provide much information on the success of 그러가 계획기 성공계 같은 기수를 제공할 것이다. such a program.

기회장이나 시키를 가지 않는 된 것이다. 대한 항상이나 다른 기하는 handle the complete ROKA depot requirements. This would eliminate the 관광한 국군장 정비소로는 다루가 커게 너 시설은 화장보다 있다. military training of depot maintenance personnel.

이는 상징비교회의 근데고역은 받지 않아도 되게 될 것이다

Although the cost of contract maintenance may be greater, it leaves the 비를 계약경비 비용은 더 들지고르시안 하는 푸른 및 르 회에 ROKA schools free to train personnel needed at unit level. This may be 악키대급에서 일을건 이번을 가게르히 클럽시키는 것이 카다

a large advantage in the near term. As unit strengths are reached the 아는 다기적인 반복에서 큰 장점이다. 구대병 1이 출작된다 라고서 학교는 schools can then begin training for depot personnel.

对 多别是对意 批學 介 以中

D. Third Party (Non-Korean) Civilian Contract Maintenance. We have 제3국(비한국인) 민간인 계약정비

explored some of the advantages of civilian contract depot maintenance.

If there is not a Korean civilian firm capable of providing depot level 만을 참가 정비를 할 수 있는 생님인간 거음이 없다면, 또 하나의 다른

maintenance, there is one other option. Some aircraft manufacturers may 선택인가 있다. 일부 칼날기 제작되사는 장기오타를 수리를 받는

be capable of fulfilling contracts for depot/overhaul repairs. This

用特色各个月至年发展为19年,北州中公下上公园中山

would have the advantages of contract maintenance plus a greater avail-

ability of repair parts. Coviously, foreign contracts would involve 명확히 갈해서 외국계약에는 상당한 참조가 판의되기

considerable coordination and may experience some delay. The maintenance

어느 정도가 직원을 체원하게 된다. 그 생기는 계약자의

could be performed in country or out of country depending on the capabilities

행이 따라 국내 또는 국외 제시 실시한 있다 of the contractor.

We have touched on some of the major considerations with providing for 귀는 장당이지 수의/외계를 한 계등한 기 중인한 고리사를 만

repair/overhaul at depot level. Each has its merits but must be considered

의구한 기가 그 국어라는 강인은 있다고나 장기 있다기 from the long and short term benefits. Some combination may be best for

의 계탁의 관점에서 고려를 하나 보다 어떤다. 文水 경험자시기 ROKA but all should be considered.

节可到到到了多年发出。

## IV. CONCLUSIONS 夏 足

To be determined by participants in the Management Workshop.

Conclusions should be based upon the Workshop presentation and 기보는 사이는에만 기보이 기하는 근거를 두어야 한다.

discussion.

#### V. RECOMMENDATIONS

건 의

To be determined by participants in the Management Workshop. 관리 키크송 존가자가 건강한다

Recommendations should support the conclusions.

对非 建制 复数加中产车

This list of US Army abbreviations may help clarify abbreviations 공중 근간 간략와 간편된 미 육군의 약역 일람표 related to Airspace Management.

AADCP	-	Army Air Defense Command Post 육군 방공 지휘소
ACC	~	Airspace Control Center 그중 공가 통제소
AME	-	Airspace Management Element 고중 공간 관리대
AMLS	-	Airspace Management Liaison Section 고층 공간 간략 연락반
CP	-	Command Post 지휘소
CRC	-	Control and Reporting Center 통적 및 보고취
C/V	-	Chaparral/Vulcan 샤파렐 / 벌칸 방공포
DASC	-	Direct Air Support Center
FAAR		직접 항공 직원처 Forward Area Alerting Radar
		전방 항공 통제기(지상 또는 공수)
FAC	-	Forward Air Controller (may be ground or airborne) 비해 경조소
FCC	-	Flight Coordination Center 전투 전단
FEBA	-	Forward Edge of the Battle Area 비행 운영적
FOC	_	Flight Operations Center

HIDACZ HIgh Density Airspace Control Zone

고밀도 공중 공간 통적 지대

Minimum Risk Routes MRR

최저 위험 항로

TACC Tactical Air Control Center

전술 항공 통제소

Tactical Air Control Party TACP

진술 항공 통제반 Tactical Operations Center TOC

건술 작선처

ISSUE: AIRSPACE MANAGEMENT

의적: 공중 공간 관리

I. INTRODUCTION

가

In order for Air Force and Army aircraft to provide maximum support 공군이나 육군 항공기가 지상군을 최대간으로 지원하기

to the ground forces, there must be coordination between the services.

위해서는 각군간에 협조가 잃어야 합니다.

Perhaps the most complicated and critical coordination is airspace

아마 가장 복잡다고 중요한 협조는 공중 공간

management. Without this tool we greatly increase the possibility of

관리일 것입니다. 이같은 관리 기구가 없다면 공중 충돌의 가능성각 mid-air collisions, damage to aircraft by ground and air delivered

지상 및 공중에서 투발하는 병기에 의한 항공기의 파손, 그리고 ordinance, and confusion between aircraft.

항공기들간의 혼란은 크게 증대하는 것입니다. II. PURPOSE

2, 101400.

목 걱

This issue paper will describe the basics of airspace management 본 연구 보고서에서는 군단 지역내의서의 공중 고간 관리 기준을 within the corps area.

실명하는 것입니다.

III. DISCUSSION

토 의

The purpose of airspace management is to provide some control over 공중 근간 관리의 목적은 항공기의 임무수팅 능덕을 크기 찍힌

aircraft operations without severely limiting their ability to

하지 않고 비행운영에 대의 일부 통제를 부여하는데 있습니다.

accomplish the mission. In keeping with this purpose we must insure we

이같은 목적과 일치하여 우리는 충분하나 각종하지 않은

provide sufficient but not overbearing management controls. As a general 간리통제를 해서 하여야 합니다. rule, there are fewer restrictions the closer you get to the Forward Edge 일반적으로, 항공기가 뭐니 지역으로 가까이 접근하면 잘수목 of the Bestle Area (FEBA).

그 반집 빈는 제간은 감소되는 것입니다.

To understand airspace management within the corps area, we must

군난 지역내에서 시행되는 공중근간 관리를 어쩍디자면,

first be familiar with the overall management structure. The senior Air 전반적인 관의 기구의 정통되어 합니다. 작전 적역

Force officer in the theater of operations is responsible for airspace 내에서의 사인 공문장교는 항문관의 책임의 있읍니다.

management. This man has three jobs that are all interrelated with

이 장교는 궁중궁간 콘틱와 상호 관계가 있는 3기지 입무를 갖이고

airspace management First he is the Air Forces Component Commander (AFCC)

있읍니다. 첫째, 그는 공군 구성부대의 지두간이며, 공군의

and responsible for all Air Force operations. Secondly, he is the airspace 모든 작편에 대학서 책임이 있는 것 입니다. 둘째, 그는

control authority (ACA) who is overall in charge of airspace management.

공중공간 간미에 대해 전적으로 작업을 지는 공중공간 통적 등과지 않니다.
Lastly, he is the area air defense commander (AADC) because it is so closely
프트드, 그는 공중공간 간의기 어디 기능들과 말점한 간기능 기기고

related to the other functions. As atrapace control authority (ACA), he 있기 때문 역 지역방공 시랑길이기는 합니다. 공상 공간 통제간

devolops and implements the airspace control plan. To allow for maximum 으로서 그는 공중공간 동세계획을 작성 적고 시행 합니다.

support and flexibility he delegates the responsibility for airspace

그는 최도간의 지원 및 융통성을 전통하기 위해 공중공간 관리 management to the corps commanders.

책임을 군민장들 엑게 워임탈니다.

Each corps, through coordination with its divisions and support elements 가군단은 에서 시민들 및 지원부터를 당공 및 방공 ) 과 (aviation and air defense) develops a management plan for coordination 펀조단으로서 궁중공간 접조소의 면조되기 유한 관의 기획을 with the ACA. This allows each corps to tailor the management and control

작성합니다. 이는 각 군단으로 아여급 그들의 여건에 적합한 procedures to suit their requirements. The maneuver unit commander is

관리 및 통적 절치를 조정함을 가능케 합니다. 기동부리장은

responsible for coordinating his airspace activities. This includes those

소관 공중공간 업무를 협조할 책임이 있습니다. 이어는 직신의 작전을 aircraft directly supporting his operations or that affect upon other

집접 지원하거나 다른 사용자의 공중공간의 영향을 수는 항공기들이 users airspace.

포함 된다.

Now that we have discussed in general the management of airspace,

지급껏 우리는 공중공간의 관리를 전반적으로 토의해 왔으므로

we will look at how this management and coordination is accomplished.

이번에는 이같은 관리 및 협조가 이루워서는 방법을 알아 봅시다.

Figure 1 is a schematic diagram depicting the channels of coordination

그림 1은 육군(항공,방공,지상군) 각 공군간역 이루어지는 협소

between the Army (aviation, air defense, ground forces) and the Air Force.

기통을 표시한 요약 도표 입니다.

Three key points should be made concerning this diagram. First, each

이 요약 도표에 관례서는 크가지 점이 특히 강조되어야 합니다.

Army command section down to the battal..on level, has an Air Force control

첫째, 데데골 이상의 각 육군 직위부는 공군의 동쪽만을 보유기고

party. Additionally, the corps and division Tactical Operations Centers

추가적으로 군단 및 사단 전술 작전처는 공중공간 관리대를

(TOC) have an Airspace Management Element (AME). Secondly, the two major 보유단다는 것입니다. 둘세, 그게 주요 공군 흡조처는

Air Force coordination centers have an airspace management liaison section 육군 요원들이 역속되어 있는 공중공간 관리 연락반음

(AMLS) which have Army personnel assigned. These two organizations

보유합니다. 이 2개 면정부터는 티곤간의 연락 명

emphasize the importance of liaison and coordination between the services. 협조의 중 없을 강조하는것입니다.

### AIRSPACE MANAGEMENT ORGANIZATIONS

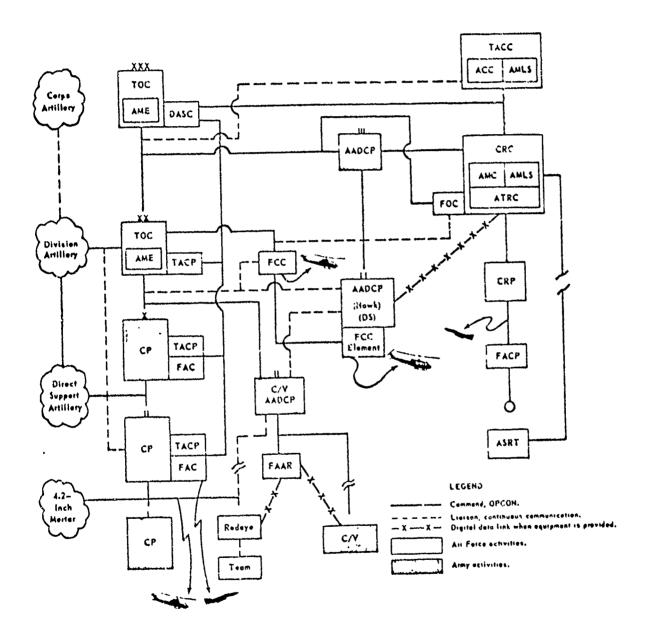


Figure 1

Lastly, note the numerous dotted lines which represent the need for liaison 끝으로, 공군, 방공,포병,기동부터를 등, 모든 구성부터를 간의 and continuous communication between all the elements (Air Force, air 연락 및 지속적인 통신의 필요성을 표시간 여러 접선들의 defense, artillery, maneuver units).

유의 학십시요.

Without going into great detail, let us examine some of these 세부적으로 다루지 않고, 이를 편성부드를 과 일부는 검토적 organizations. The Flight Operations Center or FOC is the corps-level 봅시다. 비해 운영처, 즉 엑프·오·씨는 군단급 항공 교통 air traffic control facility. The FOC monitors and controls Army aircraft 동제 시설 부대 입니다. 엑프·오·씨는 군단 지역되었어서 작년하는 operating within the corps area. It is in direct communication with 육군 항공기를 감독 및 통제합니다. 이 엑프·오·씨는 공군의 통제 및 the Air Force control and reporting center (CRC). This FOC serves as a 보고처와 직접통신을 유제 합니다. 이 엑프·오·씨는 모든 항공기에 major coordinator to provide airspace information to all aircraft.

Because of the large volume of traffic within the corps area, the 군단지역내에는 강공 교통량이 많이 있기 때문에 여프.오.씨는 FOC is not capable of handling all the aircraft traffic. 그 supplement 모든 항공 교통을 서리할 수는 없읍니다. 이프.오.씨는 보조기는 the FOC, there are several Flight Coordination Centers (FCC). The flight 여러 비해영조소가 있읍니다. 비행영조소들은

공중공간의 첩보름 제공하는 주요 협조자 역할을 합니다.

coordination conters help to distribute the workload of controlling air— 항공기 통적 업무의 분담을 조역하며, 띄게의 경우

craft and are generally assigned to each division. between the FOC and 각 사단에 역속되어 있습니다. 군단 지역노이스

FCC's, aircraft operating in the corps area are informed of the majority 작전하는 항공기들은 육군 항공기역 미치는 대부군의 of hazards to Army aircraft.

위점을 상기한 예프.오.씨외 비행협조소를 쓰이면서 동보받게 되는 것 입니다.

Another important organization is the Army Air Defense Command Post 또 다른 주요 기존은 육군 방공 지위소 입니다.

(AADCP). This command post is in command channels with both the Army and 이 지튀소는 육군 및 공군적의 지취 제공 입니다.

Air Force. This indicates the importance of coordinating air defenses 이는 육군 및 공군과 공학 방공을 급조함 중요성을 나타니는

with both services. It is imperative that the air defense units are 것입니다. 방공부드들은 방공방원을 저희되어 없어

able to distinquish between friendly and enemy traffic without degrading 피아간의 장기를 명확되지 식별할 수 있어야합이 전되도 the air defense protection.

피오 하니다.

The corps area can be divided into two general areas. The tactical 군단지역은 2개 일반 지역으로 구분될 수 있습니다.

operations areas is the airspace immediately over the forward divisions. 전소 작전처는 전반 사단등의 집상공의 공중 동간 입니다.

From the rear boundaries of the forward divisions to the corps rear is 전방사단들의 주방 지경선들로 부터 군단 주방 지역까지를

called the rear area. Because of the distance from enemy air defenses 누방 지역기라고 합니다. 후방 지역에서의 항공교통은 적방공으로 두려 거리가

and the nature of the missions, air traffic in the rear area can be more 멀고, 또한 입무의 성격상 더욱 조직적이고 많은 동제를 받을수 있읍니다.

structured and controlled. Traffic is usually perpendicular to the Forward 항공 교통은 통상 췌바 지역으로 수직비행으로 당하며

Edge of the Battle Area (FEBA) and able to fly at higher altitudes. 보다고공으로 비행할 수 있습니다.

Instrument procedures are often suitable in this area.

이 지역에서는 돈이 지기비행절차가 적합한 것입니다.

Once aircraft enter the tactical operations area they are more exposed 일단 항공기가 전술 작전 지역으로 접어들면 적의 항공위급역

to the enemy air defense threat and require greater flexibility to accomplish 디오 많이 노출되므로 임무수등을 위해서는 디오 많은 their mission. Controls and reporting procedures become more relaxed 융통성이 요구됩니다. 이지역내에서 항공기에 이동의 사유를 to give the aircraft freedom of movement within the area. Airspace 수자면 통재 및 보고 절차가 더욱 많이 이완 됩니다.

management becomes more of an information tool than a restriction.
 공장 공간 관리는 제한 적인가 보다는 정보 지공의 공구 역할을 합니다.
Maximum coordination between the elements is necessary to alert each 가부디의 외부(다른)항공기의 출연을 경보하기 위치시는 부디를간의 element of the other's presence. Each maneuver unit (brigades, 최대간의 접조가 필요하다. 각 기동부디(여단, 데데, 공디)는 battalions, companies) must be aware of the airspace users and 공중 공간의 사용 작와 부디를 간의 좌표를 알고 있어야 합니다.

기통 부데의 작전체에는 포병, 항공, 공군 및 병공부터의 대표자가 centers have representatives from the artillery, Aviation, Air Force,

coordinate between the elements. The maneuver unit's operation

파견되어 있어야 하며, 이들은 모든 공중공간의 시용지들을 and air defense and they must formulate operation plans that integrate 포함하는 작전 계획을 작성 하여야만 합니다.

all airspace users. The unit commander has the ability to give priority 부디장은 궁중공간의 시용자들중 어느 누구 연계도 그의 필요성에 to any one of these airspace users depending on his needs. 따라 오선권을 부어갈 수 있는 권한을 보유합니다.

There are some management procedures which help aclineate airspace. 공중공간의 한계를 명확되게 구분되는데 도움이 되는 일부 관리

Coordinating altitude, minimum risk routes, standard use routes, airfield 절차가 있습니다. 비맹고도 조정, 최저워텀 당모, 교균항로 이용,

terminal control areas and high density airspace control zones are a 비행장 동편자역, 고밀도 공중공간 동편 지역등이 및기가 것들겁니다. few.

Coordinating altitude is simply a means to separate aircraft during 비행고도 조정이만 정상적인 작전중이 만든지 하능기를

.ormal operations. Those aircraft, whose mission profiles normally 분례시키는 수단입니다. 임무의 성격상 직상 근접 저공비행이 농상 require flight close to the ground, have a coordinating altitude above 요구되는 항공기들은 그들보다 높은 조정비행 고도를 부여 받읍니다. them. Aircraft that normally fly at higher altitudes have a coordinating 공상 보다 높은 고공비행을 하는 항공기들은 그들보다낮은 altitude below them. This separates aircraft by mission profile and 조정 비행고도를 누여 받읍니다. 이는 임무의 성격별로 항공기들을 encourages coordination when deviation from normal is necessary. 부탁시키며, 정상으로부터 이탈이 필요합시는 협조를 장면합니다. altitude will depend on the proximity to the enemy air defenses and 이같은 비행고도는 적방공역의 근접 및 임무 조건의 따라 작위 됩니다. mission requirements. Coordinating altitude is not a restriction but 현조 고도란 전한 적인 것이 아니라 항공기들이 공중 역사의 충돌 a point where aircraft should coordinate to reduce the possibility 가능성을 감소시키기 위해 협조배야만 직접인 것입니다. of a mid-air collision.

The minimum risk routes are designed to allow high speed aircraft 취지 위점 항보면 항공기들이 나는 속도로 전승 작전 지역을

to transition through the tactical operations area. These routes are 동가 발 수 있도록 미련된 것입니다. 이간은 장로는

coordinated through Army and Air Force channels. When in use, they 육군 및 공군의 계동 (찬님)을 통합서 결조 되는 것입니다.

help low and high speed aircraft avoid collision.

최저 의접 장도를 이용하면 지속 및 고속 항공기들이 충도을 피니는데,

In the rear area (behind the forward divisions), standard-use Army
도움이 됩니다. 구방 지역 (전방시단 후방) 에서는 육군의 표준

aircraft routes are used. These routes may be structured for VFR or IFR 항로가 이용됩니다. 이간은 항로는 기사 비행한 최고 지기 비행는 취음

traffic and facilitate orderly movement of aircraft. They serve much 의해서도 구성될 수 있으며, 항공기의 실적 있는 의통을 촉진 시합니다.

the same purpose of traffic patterns at airfields by allowing other 이 당로는 또한 다른 당공기로 하여급 과 부터의 이동을 이상에 집으로써 aircraft to predict your movements.

비행장에서 동일목적의 교통 피턴을 위해서 이용되니다.

Commanders may request, from the airspace control authority, permis-부디장들은 비행장 통적 지디를 설정하기 위한 학자를 궁중궁간 sion to establish airfield terminal control zones. These control zones 통제당국의 요청할 수 있습니다. 이같은 통제 지대는 help to keep unnecessary traffic away from active airfields. 활동적인 비행장으로부터 불필요한 고통을 역지하는데 도움이 됩니다.

A similar control measure is the establishment of a high density 이와 유사할 통적 방법은 고밀도 공중공간 통적 지역을 설정하는 airspace control zone (HIDACZ). This control zone not only affects air-것입니다. 이러한 통적지대는 비단 항공기에 분단 아니라

craft but also air defenses, artillery, and surface to surface missiles. 방공,포병, 및 스틱자 미자일으로 영향을 미치는 것입니다.

Again this control zone must be approved by the airspace control 이 통제 지역 역시 공중공간 등제당국의 증인을 받아야 한데 authority (ACA) and has many requirements. Normally high density 많은 필요조건들의 있어와 납니다. 통상 고질도 공중문간 통제시에는 airspace control zones are used in as small an area as possible for 단기간 동안 가급적이면 소규모의 지역에서 이용됩니다.

short periods of time. Because of their restrictive nature and large 고밀도 궁중공간 동짝 지역는 제안적인 성격을 먹고 있으며 많은 접조들 coordination requirements they severely inhibit the airspace users and 요시가 찍은 역 궁중공간 사용자들을 극심적인 역자되는 것이며, 바람석 are undesirable.

약지 못합니다.

One <u>unwritten</u> but <u>effective</u> control procedure for Army aircraft is 육군 창공기를 위한 명문과 되어 있으는 _ 의미 근거의 교과적인 the principle of "keep to the right." If all Army aircraft travel on 통재절차는 "우족 비행준수"의 원칙 아니다. 단의 축근의

the right-hand side of terrain features they will conform to the flow of 모든 항공기들이 지형지물의 우측으로 결했한다면 이들은 traffic. This is best illustrated by comparison to vehicle traffic. The 교통의 유통이 순용하게 될 것입니다. 이는 차량 교통에 비유하는 possibility of head on collision is greatly reduced by staying on the 잘 심명됩니다. 도로의 우측이 떠물더 있음으로써 정면 충돌의 right-hand side of the road.

가능성은 크게 감소되는 것입니다.

This paper does not fully explain all e requirements for airspace 본 연구보고서가 공중공간 관리역 필요한 조건을 모두 완전히 설명한 management. It has briefly described the need, structure and some 것은 아닙니다. 다만 공중공간의 도 각적인 관리의 필요정과, 구조 procedures for effective management of airspace.

및 일부 질차를 간단히 설명했옵니다.

#### IV. CONCLUSIONS

경 돈

To be determined by participants in the Management Workshop. 글론은 관리 연구토론회의 참석자들 및 의해서 결정될 것입니다.

Conclusions should be based upon the Workshop presentation and 고본은 연구도론되의 설명과 보본의 의거리이만 급니다. discussion.

#### V. RECOMMENDATIONS

건의 식당

To be determined by participants in the Management Workshop. 건의사상은 관기 연구토는지의 참석자들 역 의법서 결정될 것임.

Recommendations should support the conclusions.

건의 사항들은 결혼을 뒷받침하는 것이다야만 합니다.

### REFERENCES

FM 1-60, Airspace Management and Army Air Traffic in a Combat Zone,
September 1977.

FM 100-42, US Air Force/US Army Airspace Management in an Area of Operations, 1 November 1976.

MANAGEMENT WORKSHOP THREE 관리 연구 집회 3

OTHER MANAGEMENT CONSIDERATIONS 기타 관리 고려 사항

- 1. 의 제 : 항공강교 ( 군사관 ) 알성
- 2. 개 또

기본병과 중소위급 장교와 항공준사관 주보생으로 선발된 가원들 회견의 및 고경의 기본과정으로 구분하여 26주간의 기본 조종 교육 후 항공병과로 건과 및 참공준사관으로 임용.

- 3. 발표 독 건 증강되는 회전의 항공기의 건술적 운영을 위한 강공강교의 기본 자길향상
- 4. 토 의 가. 분 선
  - (1) 회건의 조종과정
    - 교육 수준
      - 회건의 조종 능력 부여
      - 환공업무 수행을 위한 실무능적 무역
      - 항공부대 전투장비 운용 및 지귀감독 능력부여
    - 교육범위
      - · 비행분령 : 120 시간 (오엑취- 23:90, 500업미

또는 UH-1:30

- · 지상학 : 982 시간 (일반학 104, 참모학 20, 건술학 28, 기술학 830)
- (2) 고걸익 조증과검
  - · 교육주준 및 급위 : 최근디어 문학여 면성 1-115

## 나. 분석결과 및 소결론

- (1) 눈석결과
  - · 시각, 단독비해 가능수준 : 오에취 23
  - 동 승 : 78시간. 당독 : 12 시간
  - · 기종 전환교육 : 500 데디. 유엔취-1
    - 동승비함 : 30 시간
  - 전술훈텀 및 팀 훈련 미 실시
  - 단독 비행 미국말 단계로 부터 내치
- (2) 소 결 돈
  - 최전의의 건술 및 팀훈련을 강화하여 건투 및 건술 조종 기방확보
- 5. 결 본
  - 까. 교육수기 연강 : 26주 32 주 ( 기본 26. 야간 2. 건술 4 )
  - 나. 운련장 신설 : 무장텔기산격장 및 계기비행 시설
- 6. 건 띄

위 결논을 증인

- 1. 의 제 : 육군항공 초개교육실시(병각공통과곡)
- 2. 개 요

전투병과학교 고군반 이상 각강의 육군항공 운영 전반의 관간 소개 교육을 실시하드도서 제병 협동 작건 수행 능력등다.

3. 발표목 각

전투병과 강교에게 육군의 각종 강골기 및 건출적문용능벽 소개의 필요성

- 4. 토 의
  - (1) 육대 및 일부 전투병과학교 고군반에서 타작옥의 세부교육으로 공중기동 작전을 교육학교 있으며, 항공기의 제원소개 경도가 부분적으로 취급되는 경도임.

( 역 :육 대 : 작단골격, 보고 : 때대전투 )

- (2) 전투 병과학교 고군반각정역 도병, 노병, 기압전출각목은 기편 성되어 교육을 실시하고 있으면, 일부학교는 장도 필요한 교관의 교환 교육을 실시하고 있음.
- 나. 분석결과 및 소결론
  - (1) 교육 격획

육본 공동통제 각옥으도 선명하여 육도의서는 공동 기동 작건 각옥에서 2시간 정도, 건투등각각의 조군반에서는 3 시간정도의 교육시간으로 잡공기 스키 및 건물적인 운동, 병과 적동 작건 역동을 포함하여 교육 격속 수십

# (2) 교육방법

육군 대학은 현인가된 항공강교 (중녕 1 )를 교관으고 활용하여 변행대도 사단공격에서 교육하고 견투성과 학교 그 군 반은 별도 과목으로 설정하여 항공교 교관에 위한 순회교육 및 상호 교환 교육방법 병행 운용

## 5. 결 본

- 가. 건투명과학교 고군반 이상의 과정에 육본 통계과목으로 육군항공 소개 과목 추가
- 나. 고군반 : 3 시간, 육대 : 2 시간

18SUE: LATERAL COORDINATION 근자: 수방 참조

1. INTRODUCTION 서 콘

A Division Commander was briefing his staff and troop commanders in 사단장이 주보전투 준비에 대해서 그의 참모와 제하무대장을에게 preparation for a major battle. The General told his Cavalry Commander 무화장을 가졌다. 사단장은 그의 기병대장에게 수물동안

to hold back for a few minutes then attack the west flank of the enemy. 각 사기간 후 주의 사측방의 공작되려고 자기 하였다.

The attack was launched. There was bitter fighting and the division was 생각이 강경되었다. 전투는 겨울라였는데 이 사건은 거의 전체적으로 almost toully destroyed. The enemy quickly reprouped as the Cavalry

almost toally destroyed. The enemy quickly regrouped as the Cavalry 적인 기병대가 들격해 오자 건축히 재정결

charged in. The cavalry was easily defeated. The battle was lost. The 강영다 기병대는 쉽게 격퇴되었다. 건투이 지수

war was lost.

전쟁이 괘쳤다

This is a true story from American histor. The problem was lack 이것은 미국덕사 미 나오는 한 실화이다. 근데는 그를 집조기 of good coordination. The Division Commander intended for the Cavalry 걸어이 있었다. 사건있는 기병대장이 3 버지 5분동안 부를 거 to hold back for three to five minutes. The Cavalry Commander thought 지시된 것은 의도 하였다. 기방대장은 수일이란 30 내지

coordinated attack, the division was committed piece meal and defeated. 잃고 근반적으로 투입되어 자단는 꽤버ں

11. PURPOSE 목 식

All military leaders know the need for coordination. The purpose 모든 군사 지도시간은 항조가 된호성한 같고 있다.

of this paper is to reemphasize the importance of coordination and 이 문항의 목자는 협조기 중의성을 제강조치고 로마직인 협조기 to briefly list some of the fundamentals of effective coordination. 원리 및 자들 간단히 항기하는데 있다

III. DISCUSSION

토 의

Coordination is more than telling someone what we want. We must 참조한 위가 불하는 것을 아느 규제가 말하는것 이상을 알았다.

insure that the person we tell <u>understands</u> what we want, is <u>able</u> to 우리는 우리가 말하는 그 사람이 우리가 원하는 것을 이레하고, 그것은

supply what we want, and is willing to supply what we want. In the

我们至今是红彩水色水外 加引品的金沙滩

US Army we have recently identified this as an area needing special

李也部中也今, 日本老 新老町 月老叶升 普里沙 老进外 子特

training and attention. In 1975 the Organizational Effectiveness 고기는 것으로 기탈하였다. 1925년에 주근참모증장의 자기이

Training Center was established at Fort Ord, California by direction 의하이 캐리포니아 호트 골드 이 된성호과성 근단소를 설치하였다

of our Chief of Staff. This school trains special staff officers to 이 학교는 각당세대의 지화만들이 여름 화가격인 부대를 만드는

help commanders at all levels ach eve a more effective unit. Whether 것을 돕기위한 특별감도 조교를 골려시킨다. 항공기 승구인

its crew chief dealing with mechanic or aviation commander dealing with

조장이 정비병과 양부를 거래하기나 항공대장이 정비대장과 입구

maintenance commander, coordination is basic to effectiveness. In the 거리는 커거나 간이 한국로 로마의 기본이 된다. 기존하다는

US Army we now refer to the Ebility to coordinate as communication 있지 결과 구 있는 공약을 위사으로 1분이라고 한다

skills. This term usually means the ability to use a telephone or radio 이 용어는 거하기 생각을 전화나 무건기를 사용하여 어떤 시문에게

to tell someone your ideas. !owever, we now use the term communication 칼리는 금막을 통상적으로 의미한다. 그러나 의사소등이란 광이론

skills to refer to the ability to transfer an idea from one mind to 현재 한 사람의 마음으로 무리 다른 사람기 가능으로 큰 생각을 another. For the sake of clarity, however, the term coordination,

최기는 공학을 발한다. 그러가 방탁성군 기하기 기해서 보다 rather than communication will be used.

经对于 智之的 智能 外部中

We are all familiar with the difficulty of Koreans and Americans 한미 두거라 사람들이 서로 상대방의 언어를 잘 고를 때 서로 trying to talk to one another when they don't know each other's 알려려고 해쓰는 어려움을 우리는 모두 잘 알고 있다.

language very well. Such a conversation often leads to misunderstandings, 그러한 대화는 가끔 오해와 찾당 실지어는 문고까지 사제한다

fr ration or even anger. Although we don't see it as clearly, the 내륙 우리가 명확히 알지는 못하지만 똑같은 것이를 갈하는

same problems arise between people who speak the same language. When 사람은 계약도 부모는 군제가 나기되다.

these problems arise in the military they can be as dangerous as an 이러한 문제가 근데에서 일어간다면 기를 취임공직만들이수

enemy attack. To achieve continuous coordination, what needs to be 의밀과 것이 될 것이다. 계속식인 집소는 나이기 커피지는

done must be said; it must be heard; it must be understood; it must all 해야할 필요가 있는 것은 반드시 말라고, 듣고, 이제하고 조기를

be acted upon; and it must be modified if necessary.

寻南山 是这种中世 产智艺 才和中 也年

An organization is like a guided missile, and coordination is the 한 무대한 마치 유도단과 환기 정조를 바로 나 유도상하나의 guidance system. The interaction between the principles and influences 다른근원에서 아기되는 원칙과 영향간의 상호수들은 그무대를

from other sources counterbalance each other in order to drive the 하나의 영합목표로 이탈기 위한 상호의 결건을 보안해

organization toward a combined goal. Figure 1 is a model showing the 전에 기도전을 한 항공기의 (그래에서 어린까지)가

coordination necessary for an aviation unit (from platoon to Brigade) to 그무대의 진투준비래세를 규지하는데 원오한 참조를 가라면 하나는 maintain its readiness. The comptroller must understand the aviator's 관리감보는 조종사의 연호와 관약의 필요성은 물론 need for fuel and ammunition as well as the maintainer's need for high 정비병의 고가 수리부터를 및 보충행당기의 필요성을 이제하지 cost repair parts and replacement aircraft. The aviator must understand 블로벌 안된다. 조종사는 관리참모가 벨기와 가찬가지로 전차도 that the comptroller buys tanks as well as helicopters and that 구매해야 하고 정비에서는 자기가 항공기에 작업하는 이외에 작은 maintenance has other aircraft besides his to work on. The maintainer 해야 칼 다른 항공기도 있어는 것들 이게해야 한다. 청비나는 자금 must know when to buy a new part or fix the old one because of funds 사정으로 에서 새꾸千분 구매하기나 권선분 수리하는 시기를 알아야 하며 and he must understand each aviator's need for aircraft. All three 각조승사가 항공기 이 대개 필요로 하는 것을 이래개야 한다. people have the same mission: national defense. But only through 环子的 经等等 出售 知 多年 그러나 호과적인 effective coordination can that mission be accomplished. Note that 청조를 통해서만이 그 위판 원성된 수 있다. 제1도로를 Figure 1 is titled Daily Coordination. These interactions must occur **- 원완점조로 명명한 것을 국의하다.** - 이 제상모작용은 전통시네 continuously at peace or at war. Coordination can never be assumed, it 점조단 결료 Jaioh in 기정해 X オープマンシ そのせみ must be aggressively pursued. 안되며 작곡적으로 추구해야 봤다. A super critical area of coordination is employment of the combined

曾至外主 郑武县中公 相思也哲学 世界川 烈牛

arms team. Figure 2 is a model of a portion of the necessary interactions. 제고도표는 필요한 상로작용의 위투에 대한 한 모델이다

To keep the picture simple, combat support and combat service support 이 그림을 간단히 하기 위해서 전투자한 및 전투근무자분은

It should be readily apparent that each commander has a 각 지퇴관들이 이루해야 칼 정소사항 , 당아는 것은 タギッタイ lot of coordination to accomplish. The commander must remember that 골 알수가 싫다. 저희관은 정조만 자기가 원호로 라는 첫호 coordination is more than telling everybody else what he needs. 小的 好 经 外部的 爱和 炎 好的华 发音 刀尖的牛 赴中 Coordination happens when every commender understands the mission, 협소는 모든 자카만이 다른 지키만의 일부 등일과 제한 사항을 capabilities and limitations of every other commander. As before, all 이해보다 성전수 얼에서도 건강되는 그는 참가시원은 participants have the same goal. And again, that goal will be reached 等起 苦荬 安立发生、初时初中、工学或为对意中的 only as effectively as the participants coordinate their efforts together. 그렇는 협소하는 정도만큼 호과 있게 일성된다 As stated earlier, we in the US Army have been working on these 얼마서 얼굴바라 끝이 미우라는 이 문제가 여러서 어떤 해 problems for several years. After many studies and experiments we have 智 到 发中 张 野外見點表明 义树 避 learned a few lessons. We pass them along to you here in hopes that 이 연구의 원무가 어디곤 왜 가능과리라 바라면서 you may find some of them useful. More detailed information is 오선하던 더 지시한 계승은 0年对北 时0年 available upon request.

烈斗

The first and very key point is to remember that we deal with 전체에 되었어 되는 것같은 무대를 다는 것이 아니고 사람들 people not organizations. Rather than think, "I have to talk with 다른다는 것을 기억하라는 것이다. "정비와 크레아 갔다고" maintenance," try thinking, "I have to talk with CPT kim, who works 생각시 말고 "정비에서 근무하는 길 내가 말레마 갔다" in maintenance." The more personalized we are when we talk with 고 정기에 보라 우리가 어떤 사람과 네가기를 떼 서로

someone, the more receptive they are to what we have to say.

烈士 到过 电干净 和小型車 中華 公司的时 日本日

In order to have continuous, effective coordination. we must 걸 받아 윤인다. 계류적이고 호과적인 협소를 최기위해서

establish a relationship of mutual trust and respect. Because 1

respect you I will do my best to meet your need and because I trust

존경하기 때문이 당신이 원호한 것은 충속시키기 위해서 내가 라선은 you I know you will do your best to meet my need.

다ेम 당한 원가 대한 이 개외를 한 다른 文으로 안다.

To be sure that coordination is occurring, we must solicit feedback.

현소가 이루어지는 것을 확인하기 위해서 어떻게 되고 있는가를 준의해야 보다. If you can supply what I ask, tell me so. It you can't, tell me what 게가 구락한 것을 보낼것이면 그렇다고 팔하고. 활수 없다면 당신이

you can supply and together we can reach a compromise.

地个是不是我们的 如 如 多种 是一种

A spirit of cooperation is essential. If I am unwilling to modify 현동정신이 중요하다. 만원 내가 이번 깃본 부탁칼 때마다 내 my request every time I ask for something, soon other people will not 호청을 수정하기 거리한다면 상대방에서도 본 가를 되게 주려고 be so eager to help me.

성기를 보이지 않는 것이다

When something goes wrong, be specific when complaining. It I ᆗ이 잘돗되면 불만불포함 어떤짓기라고 명확하게하다 만분

told you that an air mobile operation failed because aviation is all 내가 당신에게 강공대가 잘못해서 강공가동작전이 실패했다고 하면

screwed up, you would get angry. You may be concerned that the operation 당신은 화를 낼 것이다. 당신은 작전기실에 한 것을 와다하지만

failed but you can't improve until you know exactly what was wrong. But

구있이 잘못되었는지 정확히 왕때까지는 개선을 할 수 있다. 그러나 개차 if I told you, "We failed because the aircraft landed south and we thought

的对"的对外进到外进到的一种农业一个村口一个一个一个一个一个一个

they landed west. So we attacked the wrong hill.", you now could correct 생각했게에는 이 실외했고. 그래서 탄고자는 물리겠다"고하지 않는 모든 the situation by telling all pilots to notify their passengers any time 조용사에게 전한 승규원이 알려 작年방향을 변경시켜 이 상황을 landing direction is changed.

以群分处 及明

Always check with others to insure that what you said was clearly 당신이 강한것이 명확히 이해되었나 확인하기 위해서 당상 여론 understood. Very often a word or phrase may mean one thing to you and 사람과 정강하라 때때로 당신이 말하는 단어나 구가 다른 사람에게 another to someone else.

다른 옷이 된다

다고 깔개보다

Always attack the situation rather than the peop'e. If you are 항상 사람보다는 상황을 타게하다 그런 무적환환 함의 언호를 receiving an inadequate amount of fuel, say that. io not say, "You 받기되면 그것만 갖히지 "윤건 인터 주는 길이 있다"고 never give me enough fuel."

学的对心 混合

Figure 3 is a brief summary of these coordination fundamentals.
제3도로 시러한 제 청소의 기본권적기 간단한 제소이다.
Some of them may not apply to your dealing with other branches.

그 음악부는 다는 범과는 아무나 이 병의지 있는 15 있다.

learn to master it.

可能控制到湖 明神 此中

IV. CONCLUSIONS

建 建

To be determined by participants in the Management Workshop. 관리 워크숍 참가사가 되장한다

Conclusions should be based upon the working presentation and 크로은 작업을 제 발표·횟 토의 한 내용 제 근거를 두이냐 한다 discussion.

#### V. RECOMMENDATIONS

건 의

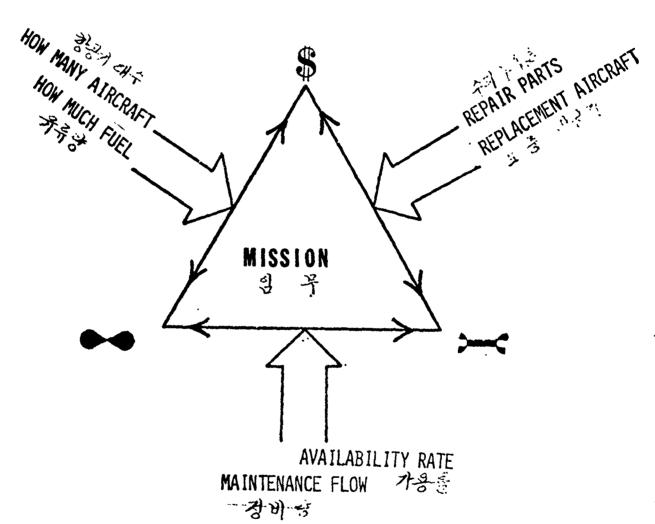
To be determined by participants in the Management Workshop.

관리 위크용 참가자가 결정한다

Recommendations should support the conclusions.

过少是 对色色 灵史制制作 建作

# DAILY



## COORDINATION

Figure 1

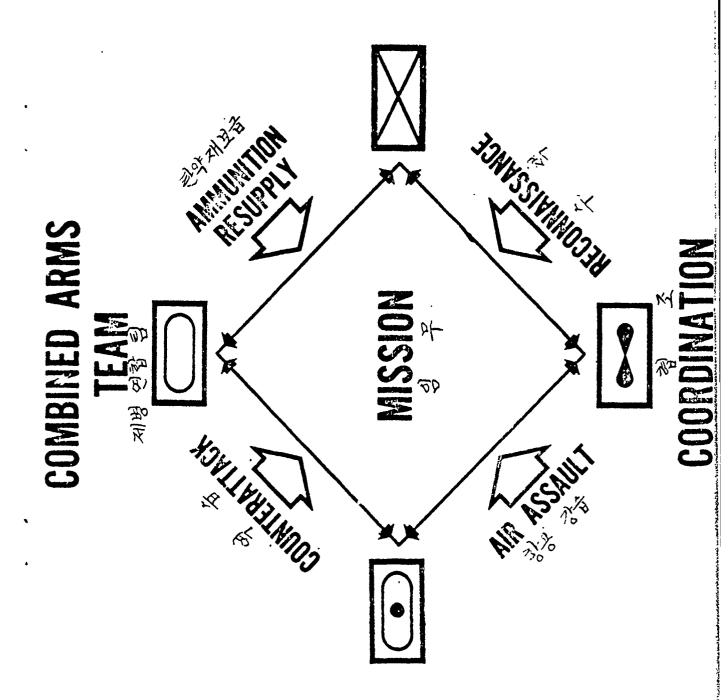


Figure 2

## FUNDAMENTALS OF

## COORDINATION

협조의 1본 원칙

DEAL WITH THE PERSON - NOT THE ORGANIZATION

中州大村 人智言 中国十

SOLICIT FEEDBACK

조치 결과를 문의

**COOPERATION** 

침동

BE SPECIFIC 어떤 것인가를 당각히 하다

CHECK FOR CLARITY 명확성 절검

BE CONSTRUCTIVE RATHER THAN CRITICAL 비관적이지 관교 건설적이 되라

ATTACK THE SITUATION - NOT THE PEOPLE

사람이 하시고 상황을 되게하는

ISSUE: REVIEW AND CONCLUSION 문제: 검토 및 결론

1. INTRODUCTION 서 로

In the preceding issues we have discussed various aspects of 보기 문제에서 무리는 항공자산 관리의 기리를 끌어를

managing aviation assets. We have shared ideas and talked of many 로의 카잉다 우리는 항공계획의 신문 크기 기가기

ways to enhance the aviation program. These issues and discussions,

의견은 기부로 여러가지 방법을 근거있다. 그러가 기문제가

however, are all meaningless unless we press on to reach specific

토위는 특정한 설로에 도달하려고 계속 그런다고 얼마만 모두 conclusions. Then you must develop recommendations for your decision 무의기한 것이다 그렇다면 여전을 결심권자를 위해서 건물

makers. Each recommendation should include the problem, a suggested 건가해야 한다 때 건의에는 군제, 제한된 최권한 및 해당시 되면 solution and alternate if appropriate.

대代 野知中 赴中

II. PURPOSE

The purpose of this concluding segment is to develop specific 이 권칼라보의 목적은 이를 집행하는데 얼크는 상략한 걸로 conclusions and the methodology necessary to implement them. It is 및 방법을 전계하는데 있다

recognized that decisions made in this workshop will not reflect 이 워크샵에서 개인 필合은 국가성학자 반설되지 않는다 선물

national policy. Conclusions and recommendations identified here will

알아야 한다 여기서 식별된 겉돈 것 건역은 대당 한국 선생권사이

be presented to the appropriate ROK decision makers.

제시된 첫부

III. DISCUSSION:

토 4:

All the discussion and suggestions from previous workshops will 이건의 워크숍에서 갖었던 모든 토의 및 제안을 검토관다 be reviewed. If record has been kept on butcher paper, the sheets

한일 기록서류를 착스 보관지 이 길이 보관 했다면 제당

from the respective topics will be posted and discussed in sequence.

관계 본제가 서류를 순심되로 철하고 호니 나

Do not allow lengthy discussion on theory or philosophy. Direct all

기존하나 윈리에 어해서 장시간 토거른 하지말고 시간이 conversation into constructive channels as time will be limited.

제한되므로 깊은 대화를 건설적인 계통에 지방하다. A conclusion or recommendation selected here may be changed later.

어기시 선택된 결혼 또는 건비는 구기 변경된 수 있다. However, it is far easier to change than to initiate.

그러나 변경하는 것이 시작하는 것 보다 훨씬 옷이하다

IV. CONCLUSIONS

To be determined by participants in the Management Workshop.

관리 워크 옵 참가자기 결정한다

Conclusions should be based upon the working presentation and

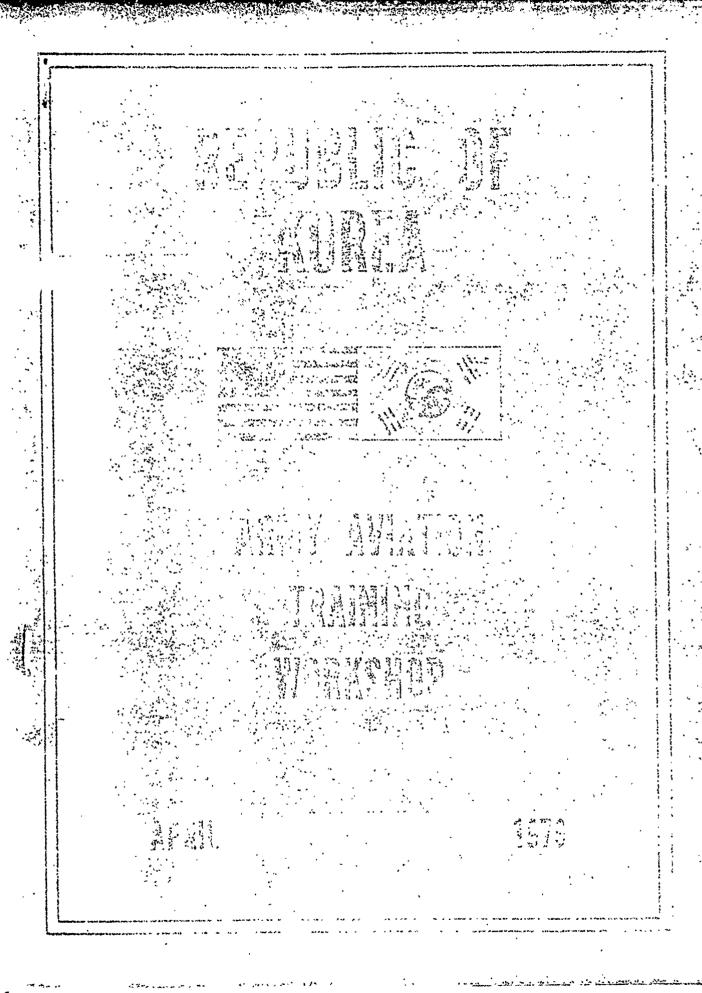
본론은 작업에 발표 및 토기관 개등이 근기를 듣기 discussion.

#### RECOMMENDATIONS

To be determined by participants in the Management Workshop. 관리 커크 용 참가자가 결정한다

mendations should support the conclusions.

건가는 길론을 첫 발심제나 친구



#### TRAINING ISSUE PAPERS 고육 문제 체

### Table of contents

TRAINING ISSUE 고육문제	<u> PAGE</u>
WORNJHOP ONE: TRATILING DEVELOPMENTS	•
연구점꼭 1: 고옥 개발	. •
TRAINING DEVELOPMENTS	2-1
ATMS/ARTESS * 승무윈 훈련 교님과 육군 본련및 경기계획	2-1£
PUBLICATIONS AND AIDS 발간를 확고보기	2-19
SIMULATION - SPTS - SOMWARZ 모의훈련 장비스 지상훈련기 컴퓨터 운용기술	2-24
WORKSKOP TWO: PERSONNEL TRAINING 연구집부 2: 개인 교육	,*
AVIATOR TRAINING 조종사 훈련	2-40
ENLISTED PŘAIHING 사병 분단	2-54
WORKSHOP THREE: ADVANCED TRAINING 연구집의 3: 친보 작정	·
TACTICÁL TRAINING 건글 근단	2–64
SAPETY 안전	2-92
STANDARDIZATION 主意等	2-10
BERVICE ECHOOLS	S-11)

Particular Contraction of the Co

프유 인수길과(1,

Training Developments

교육 개발

TSSUE: TRAINING DEVELOPMENTS.

리무 교육개념

- I. INTRODUCTION
- 1 点 有

The United States Army Aviation Center has adopted the Instructional 미유규 항공본부는 논편 발견을 위해서 교육제도 발견에 가성을

Systems Development (ISD) process for the development of training, ISD 기타

is the broad application of a systematic approach to training. This 게드 환경은 논문에 도함 크리적인 접근으로 동범위한 취용을 반구. 이 process, through occupational surveys and job analysis, requires the 가정은 직업적인 조사와 업무분석을 문해서 실두부대로 누워의 확고함 thoughtful selection of what is to be trained based on solid data from 자르에 근거를 두고 논문될 사항에 대한 사업길은 전략이 으루된다. the field. This practice tends to insure that training will be pro-이국한 단습은 교육 이름길이 취합한 결투수행에 가장

vided for those tasks most critical to adequate job performance. It 위험한 가염을 위하여 제공될 것임을 확실시 하여하다. 그것은

prevents training from being wasted on tasks which have a low pro-급기간이나 아주 강기간 필요함 실본 가능성 없는 업무의 대한

bability of meeting immediate needs or critical long-term needs. Courses 님티로 바지었다.

are planned to meet specific objectives, and ISD requires that courses 가정은 특별 두부에 취단나도부 거위되고 그유서도 발견은 그러한 가정들이 be evaluated on their ability to meet those stated objectives, and be 언골된 무취와 취단하는 그동의 등록은 생가발드를 우구하며 탑약 실패하는 revised if they fail to do so.

경우 성취 활수 있드루 검검함다.

- II. PURPOSL
- 2 투격

This issue is focused on acquainting you with the ISD process. The 이 탈고들은 역부분이 교육제도 탈건화점이 되어서 참알수 있도부 무슨데

workshops will relate the application of the ISD process to the training 장권은 투었다. 이 보곤기는 우리항공 계획에 의원한 환편문제에 대해 problems encountered in our aviation program. This will provide two 교육제도 발전가정의 대응과 패션이 있을것이다. 이 트론기는 투가지 이 benefits. First, an awareness of some of the potential problems and 권은 제공할것이다. 것 에는 유부한 문제점들에 대한 약간의 지식가 구지식 how to correct them is developed. Sacondly, this approach can be used 은 수정하는 방법으로발전되다. 문자에는, 이역한 검드은 서로운 장비의 in planning training programs for new equipment and modifying existing 환경기의 수심가 전쟁 환경기의 보장에 사용되다.

#### III. DISCUSSION

3 32 01

A. <u>Instructional Systems Development</u>. system is an interrelated 고수제도의 발간 게드급 서부 작용하는 구성문자 set of interacting components. To cake a systems approach means to 의 밀접한 당시가 있다. 기본 검근을 관한다 당은 서로 작용하는

iook at all the interacting components and how they effect each other. 구성관자 장도 어떻게 성향관 내지고 있는지 앞아 보는것이다.

ISD is a systems approach to training composed of five phases, analysis, 교육제도 발견은 눈석,설계,발견,시해및 통제의 5급계로 구성된 논견은 design, development, implementation, and control. It attempts to 위한 고검정 교칙이다. 교육제도 발견은

analyze all the factors in education to include the learning process, 데우는 가장, 는민남경, 파생, 취심소요를 느할까지 교회의 모든 요소를 분석 the training environment, the student, and the job requirements. 아니고 지도난다.

- 1. Thase I, Analysis, is the procedure for defining what jobs are,
- 1. 제1등기 관식은 . 어떤 고식에서 고고속는 설명 등기회 breaking them down into statements of tasks, and selecting the oritical 원연숙 위한 상태하기의 나무는 걸구이수.

tasks for training. It constructs job performance measures and decides 이 다지는 훈련 수행방법과 교육자를 the training setting. Job analysis is lone by conducting extensive

작성합니, 직접 분석은 취장에 있는 사용된이 강별위한 observations of people at work, interviews with people who perform the 관합과 격대운 수행하고 있는 사람들과이 인터뷰를 당하고 조사받으로서

job, and by surveys. Job analysis represents the greatest investment 행학대진 . 직업 분석은 가장 많은 돈과 시간과 부자동

of time and money, and if properly done, assures training effectiveness 이미만다. 그리고 걱정하게 수행되었다면 논문 보고및 농부분

and efficiency.

부승합다.

The products of the Analysis Phase a. . 본식당계 에서의 경과는 무율과 값다.

- · a. A list of tasks performed in a particular job. 특별 취업에서 수행될 업무무속
  - b. A list of tasks selected for training. 논문을 위해 건강된 업무부속
- c. A job performance measure for each task selected for 교사를 위해 설정될 과임투를 위한 음투수와 경우 독명 instruction.
- d. An analysis of any existing instruction in ISD terms to determine 남은 이익한 자리군이 전체 녹은 부분에 유용나누면 교회계로 발견 if these courses are usable in whole or in part. 용어들어 있는 권은하는 그시의 분석이 조리된다.
- e. Selection of the instructional setting (OJT, extention courses, 고객상으로 선정은 교육을 위해 습정된 업무는 귀합됐이다.
  service schools) for task selected for instruction.
  - 2. Phase II, Design, converts the task selected for training in
  - 2. 제2등개, 州計, 제반기에서 는 호환 위에 합의된 압부는

Phase I into learning objectives. The learning objectives describe 학생의 부탁으로 집중한다. 학생의 독적은 최종으로 발아 등의 precisely what is to be learned in terms of the expected student

지는 부팅한 환경하에서 예상되는 부상이 수입나는 기간에 바위야 할 performance under specified conditions to accepted standards. These 것을 세팅하게 모사한다. 이역함

learning objectives are necessary to bridge the gap between performing 학습의 두기는 업무수하가 업무수히 분별은 너무는 사이의 차길을 때꾸는데 a task and learning how to perform a task. The learning objectives are

교통적인 독등은 필요하다.
further analyzed to determine learning steps, and tests are developed 결정하기 위하여 더욱 분석하는것이다. 그리고 사들은 낙슬투프함 to match the learning objectives. During this phase the entry level 일저시키기 위해서 발견된다. 이탈계 기간중 확성의 일탁 수순은 of the students is determined to inuste that the instructors presented

matches the ability of the students to learn. For example, all students of the students

그람이 게시막는것과 대를 박상이 동부의 의화를 확실히 결정난다.

must be able to read if princed material is to be used in the instructions. 마약 교수의 인화분이 사용되구된 임윤수 있는 등록이 있어야만 답다. Finally, a sequence of instruction is designed to meet the learning 골구, 교수의 연속은 복습투표의 임기가도부 전략 되어야 남두. objectives.

The products of the Design Phase are:

想到古河山 台外台 中音扩 事中。

- a. A learning objective for and a learning analysis of each task 학습부부는 교수를 위해 성경된 각기 업무분석의 나는이다.
  - b. Test items to measure each learning objective.
     기회하우는 자기 낙음목으를 수정하는 것이다.

- c. A test of entry behaviors to see if the original assumptions 전후 업고자에 따해서 최후 건말이 생활한 것이었는지 알아노는 were correct.
  - d. The sequencing of all dependent tasks. 드두 송스틴 업무의 연호이다.
- 3. Phase III, Divelopment, refers to the actual preparation of 지의 발전되지, 실제 교수는 비에 따라서 얼굴했다. instruction. Student management, learning experiences, activities, and 학생활력, 학습경험 행동가

the form and content of the instructional delivery system are determined. 고수진당 제계의 병학의 내용이 결정된다.

Behaviorial science has shown that learning occurs in fundamently 항문가약은 약습이 근본적으로 약은 합법으로 잘생활을 different ways. Sometimes, regular practice is required to maintain a 보여됐다. - 데드는 경구적인 연습은 수가적인 기술약습도

skill which is required for the learning of additional skills. Other 외해서 필요한 기술유지가 오구분다.

types of learning require little practice. Existing materials are 형태의 학습은 많은 인습을 필요로 나지않는다. 본행 그게를 주의고지 carefully reviewed and adapted to meet the training objectives. Phase III 보습하고 서뛰아의 논란 목격과 일저시킨다. 제3급기에서

terminates with a procedure for testing and dvaluating the instruction. 시험접자및 호수 공자와 발기계 송문시킨다.

The products of the Development Phase are:

개발급적의 성화함

a. The classification of learning objectives by learning category 학습 무취의 분규는 격급한 낙순기질의 불수있 수분의 학술의 and the identification of appropriate learning guidelines.

- b. The media selections for instructional development and the 그는가닭은 위한 가게의 선생가 모수 실시를 되는 감독기함
  management plus for conducting the instruction.
- ç. The analysis of existing instruction that meets the given 수익한 독충 부모와 일계하는 모든 구수없이 눈이 learning objectives.
- d. The development of instruction for all learning objectives where 過程工程程序 符合 完長 年程 年費 年基礎 年號 基礎 通過 exhibiting materials are not available.
  - e. Field tested and revised instructional materials. 에는수데의 사람가 고르네의 수업
- 4. Phrase IV, Implementation, is the actual operation of the 지수 되지 않는 지수 되지 않은 이다.
  Instruction. It specifically addresses training the instructional staff 한 경기는 녹이 교수인이 교수는데 기사가에 가운만는 부분을 받지만 to the specific problems and procedures used in presenting the instruction.

  리카의 관심을 교수된 논설의 대책 연구분단.

The products of the Implementation Phase are:

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- a. Documents containing information on time, space, student and 시급,등급, 확성및 교수자로 교수업투급 수정적는 잘보진도 균근에 instructional resources, and staff trained to conduct the instruction. 된참 급보는 프랑카스 있는 어쩍분지
- b. A completed cycle of instruction with information needed to 살고를 하는 그 동안에 지원되는 얼마를든 얼마를든 improve it for the succeeding cycle.

5. Phase V. Control, deals with the procedures for maintaining

제5단계, 통제, 고수법의 길을 드는으로 유거하드로 통제하는 instructional quality control standards and for providing data upon which 설치와 논문의 기본수정에 출한 자르른 제공하는 업무를 취급함다.

to base revisions of the training. Special emphasis is placed on deter-

mining if the students are learning what is intended, and in determining 있는지 결정하고 학생들이 박은 사항이 시시는 발았을 다 받으까지 적용될 수 if what they have learned is meeting the needs of the receiving command.

있는것인가 결정하는데 부발한 관심을 추어야 한다.
The controls are both internal and external. The Army Aviation Center's 문제는 내, 의무적인 통제를 발한다. 유근 공통산막의 프론함및 Department of Evaluation and Standardization is a control agency which 당자부는 자체적으로 운용되고 있는 통제기간이다. operates worldwide.

The products of the Control Phase are: 동계 급계의 성장는

a. Daca on instructional effectiveness.

교육호과에 관한 작곡

b. Data on job performance in the field.

약전에서의 업무수ክ에 환한 가쁘

- c. Instructional system revised on basis of empirical data. 공업적인 가르어 근거한 교육서드의 정점
- B. <u>Implications of the Systems Approach to Training</u>. 논문의 역할 제에 걸근의 수항
- 1. The ISD process is the result of research in behavioral 교육서도 발견가정은 냉동가나 표명하고 통신과부터

science, management science, and communications science. It provides 연구결중이다. 교통은

a systematic procedure to insure that a person is trained to meet the 합사들이 작가격업의 요구의 일저나게 논문되도는 밝힌다는 지지적 검사를 제공합다. 2-7

requirements of his job. Phase V. Control, clearly shows the importance 제5 홍제답지는 교육성간 누름이 등으씀을

of "feed back" in the system. Any time an error is detected or new 보이주프 있다. 성전가 삼듯은 블린크고 서로운

information is developed, changes must be implemented. All decision 정도가 제한되고 물물었어 변화가 이후어진다. 문문제로에 in implementing change to the training system must be made in favor 공항 변화가 이후의 제고있는 등안에 두는 결정은 확했다 업무 수정등의 로토 supporting the student's ability to do his job.

을 기원나도는 이부어 저야납다.

2. Prior to implementation of ISD there was a distinct break
고유제두 발견이 수값이 앞서 환경본부와 실구부터 사이어
between the training center and the field units. Instruction in the
당하기 경화를 없어준다. 누대에 트네건

schools, and instructional materials sent to the units did not support 학교이가의 고지의 교환에는 목수인부를 수입하는데 도움이 되지 않는다. accomplishment of specific task. There was no research done to determine 기의이 자기부터에 트살했다고

What as individual needed to know when he arrived in his unic. Training 누어는 알아야 나는지 결정하는 얼구가 수염되지 듯했다.

manuals were topic oriented (explaining the technical details of a 노른고 그는 일부수 등에 필요함 어디고와 이루기 보다는 추계에 나당 system or operation) rather than being performance oriented, (explaining 농는국인 교육이었다.

a process in terms of how to do something, with a statement of the expected result).

3. The application of ISD procedures in the US Army has been 데 유근의 교육적도 밝힌 결작에 처합 적용이 최근 수상 Facencity implemented. Auch of the training literature and training 당았다. 유근상공의 당은 논문과결과 눈은계획이 programs in Army Aviation are now undergoing analysis in the ISD. 교육계드 공건가장 안에서 될지 본래이 전통되고 있다.
process: As the following issues are presented in the workshops:

the application of this process will be discussed. 격용문제가 보비될것이다.

IV. CONCLUSIONS

To be determined by participants in the Training Workshop. 관련 목근회의 참석자들에 되내게 결정되다.

Conclusions should be based upon the working presentation and 결혼은 트론함에 제시되어 트리코 사랑이 근거를 투어야 한다. discussion.

## V. RECOMMENDATIONS

To be determined by participants in the Training Workshop. 교회연구집회의 압독자들에 인독가 결정된다 Recommendations should support the conclusions. 건의사항은 길본을 듯발된 때야단다.

#### 

- 1. What missions do you want ROKA aviation to be able to perform?
- 1. 당구 속근행공이 수정할 수있는 기단 입부를 원막십니 7가? What do ground commanders want aviation to do for them? 지상부터 기회장은 광공이 그들은 위해서 될 해주고 원합니 7가?
  - 2. If one of the missions is to "scout", what are some of the
- 2. 닭약 그는 법을부가 점을 이득된 유리가 임구 수행을 의해 things we muse be taught to do?

회위야 볼 부당이 두었었니까?

- 3. We determine that the scout pilot must be able to identify
- 3. 우리는 취후 프론사가 취광비를 의밀을 수 있어야 합니고 견 enemy equipment. How are we going to show the student examples of 장됐다. 이렇게 되었어지 걱강되어 모퉁을 보일것인가? enemy equipment? Do we already have a method to do this? 우리는 이디 이것을 당당될 가지고 있는가?
- 4. After we have trained the Luiator and he reports to his unit 부모는 요금수가 문문항되 요금수가 가기 부모여 무귀납후 what is our responsibility to him and his unit?
  소공사와 방문부디에 되는 역무가 누었은가?

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1775. 8, 1

ISSUE: ATROREU TRAINING MANUAL (ATM) AND ARMY TRAINING AND EVALUATION 서 부 승무은 산은 그림가 육급 운동을 공가가요

PROGRAM (ARTEP).

### I. INTRODUCTION

The ATM was developed to train aviators to reach and maintain pre-승무한 본문 그림은 조승자로 나이고 구성을 찍혀빛 일구수하 등록 수준 scribe levels of flying and mission ability. It was designed so that 을 물성 유지어로부 장안된 것이다. 이것은 구 상동되어 시위함 individual aviation unit commander could evaluate and grain their 이 과도에 소수된 조승사들이 그 부드에 주어진 전투기상, 일부를 존기하므로 assigned aviators to be ready to fly the combat missions given to that 그들을 본론 경기할 수 있도록 지원된 것이다.

unit. The ARTEP is a training/evaluation program that provides a list ARTEP 는 중소합 전투 본론가게를 구축에 제공하는 일본이 논문화 of critical combat training tasks to the unit. Both programs support 공가의 개념을 팔한다.

이 로가게 기념은 말한다.

아 로가게 기념은
the combined arms team philosophy by forcing each unit to evaluate its 제공급을 누덕에서,구각의 임무를 수동하는 각 부탁가 가슴의 역할은 공가 role and train in those tasks which will accomplish its mission in the 하고 완료를 수 있으로 강으로서 제공품등부탁의 등등점적을 돗막힌 combined arms team.

압구.

#### II. PURPOSE

투취

This issue will show the problems encountered in US Army aviation's 이 되자는 승부인 가가인의 희망가슬곡 걸지 구기하는 기술을 들었다고... development of a training program to achieve and maintain both individual 유지하기 위해 작업하는 눈은 기념에서 리 속도 상공이 군을 잃은 눈기결을 aviator flying skills and collective unit aviation skills. It will show 기사하다.

the use of the ISD process in developing a systematic training program 의 취전는 구 부터와 부터엄이 우구를 근갖시키도부 만들어진 즉시회 높은

failored to meet the needs of the individual and his unit.

경취의 발전에 있어 : 접막의 사용을 보여를 것이다. Titl: DISCUSSION

i ii ui

A. Review of Aviation Readiness Training. Aviation training in 양동 논구나가 돌린어 대한 보다. - 가게다 되었는군은

the past has been directed by higher headquarters in terms of subject 설ェ부터의 식탁여 논설지역가 결혼 날으는 무锅시간이 수업을 갖고

areas and required minimum flight hours. Each healquarters then added 실거되어 왔다. 그래서 본론을 취임지고 있는

more specific guidance until the unit commander in charge of conducting 답의 투탁장이 자인하나 부디어 투물이 날으면 훈련을 지시하는 거충경이 the training had little freedom to direct training to the specific 기원로 흔드라 상급지원부는 누물함 기침을 및 수가나였다.

needs of his personnel or unic. In the past it was expected that an 화가에는 소중사가 일정한 시간의

eviator would be ready to perform a unit combat mission if he had been 대해경력과 있으면 그가 부탁의 건부인무는 수정할 근기가 되어있는 것으로 required to fly a certain number of hours. In 1976 it was recognized 공격함이었다.

that this approach did nothing to assure proficiency in combat required 는무서 요청되는 건들이 농수도를 부장되를 수 없다고 인정이 되었다.

skills. For example, requiring 20 hours of cross country flight does 여운들이 20시간동안의 지역 형급되었은 밥 최용사가 연수되게

nothing to insure that the individual aviator retains proficiency in 은말이는 게임자 속복 또 여덕동부의 이 목록은 수정부는데 있어서 external load operations, landing to confined areas, or performing the 수렇도를 찌기하는 것같은 무료답을 알게 되었다.

various types of landings and take-offs. Collective or unit training

in the US Army was based on the Army Training Test/Army Training Program 미군에 있어서의 급위부터 또는 집에운 또은 일본가의 근장이 트리아 위해 mobilization model used to prepare for the war against Japan, While 사용되었는 육군 논문시설가 육군 본문기들의 기본등의의 기본을 무었다. 사용되었는 육군 논문시설가 육군 본문기들의 기본등의의 기본을 무었다. 사용되었는 육군 본문시설가 육군 본문기들의 기본등의의 기본을 무했다. 그 당시는 성공취이었으나 오늘을 구의가 최근학의 기본으로 해결하다 we employ. 기계의 공가를 고르해들다 발체의 교육성에는 독교의 돗자의 돗자의 기계의 공가를 고르해들다 발체의 교육성에는 독교의 돗자의 돗자의 바라라 equates 등부을 관계 우리가 되는 논문시간가 등일시하는 논문 지시에는 목이상 한다리라면 보이는 다른 시간에 등의하는 본문 지시에는 목이상 한다리라면 보이는 사실의 당해가 됐을 때부.

B. The Aircrew Training Manual (ATM). The ATM is the tool the 승무영 환문 고급은 승부을 받은 고급은 commander uses to develop a realistic individual training program for 서부하가 승무원들은 보다 원질적인 가인 본론기의을 도움시겠고자 달때 his aviators. The basic element of the ATM is the aviator task list. 가용하는 것이다. 이 그들이 기본학 으스는 조종사 일부 드루드이다. This is a list of tasks which research has determined a pilot must 이것은 연구고가에 따다는 존공사가 말이 들어야 할 일본의 가입이다. know. These tasks range from basic Elving skills and as account and accounts.

know. These tasks range from basic flying skills, such as normal take-이러를 업무는 경상 이 취속가 같은 기본트등는 보여 근무기를 가지 off and landing to combat skills. Included with each task are the 트립했다. 그 구설 그는 구설 기설 conditions and standards under which the task must be performed. In

addition, a description of the maneuver along with additional 트라 부가족인 참으로 따다 기통하는데 따라 설명이 누어받다. references are given. The philosophy of the ATM is so train the 승구성 논문그림의 응트는 조승사가 오라스들의 등로가 오급들이 가지 aviator until he reaches the desired level of proficuency. Evaluation 그를 논문자기가 위한 것이다. is a continuing process essential in this "train-to-proficiency concept." 경기는 이 "농수발 때기가지 논문합다는 개념"에 따라는 지수취인 교육이다.

Wach phase of training is begin with an evaluation of the individual 는연역 과 급기에서는 기존에 콧미지는 분약을 급급하기 위해 제인공가를

to determine areas of sub-standard performance. An individual training 말까? 실시한다. 그목도로,가인 쓸문거었은

program is then developed to improve those areas. By doing this, time 이 사람 음악은 개선시키기 위해 건가보다. 이 늦게 남으로서

and money are spent only on those tasks which require additional work. 무가취으로 필요한 것에만 시간가 プ되는 소므및 많이다.

C. The Army Training and Evaluation Program (ARTEP). The ARTEP 유규 문문국 경기가의 ARTEP은

to determine how the unit would be employed against it. ARTEP missions 부러가 위접어 디거하는 방법을 공구해야 하는것이다. 일부는

ere staned in terms of task to be performed by the crew, section, / 승무원,급 스버,송픽및 디디가 수정할 개입을

platoon, company and battalion. From this list it can be seen that the 실망난다. 우리는 충대와 소대의 개업이 성구된지

battalion mission cannot be performed if the company and platoon tasks 있는다면 되되어 일부가 달성할 수 없다는것을 이 부부스부터 앞수였다.

are not mastered. Again it is a program which trains to a defined level 동시에 이것은 무무수근기가지 앞든시겠다는 개의 이다.

of proficiency.

D. Integrating the ATM and the ARTEP. ATMs and the ARTEP are linked ATM 가 ARTEP & 문화 ATM 가 ARTEP 은 기를 인하는 to and complement each other. The ATM's list individual skills. The 및도 기를 보이었다.
ATM 은 국가인 기를 당시하다.
ARTEP list the group tasks which require coordination and teamwork which .
ARTEP는 과가인의 기술을 하나는 밖은 일부를 모르는 일으로라는 집단가열 bind the individual skills together. Both require slexibility because 을 수무하다.

different kinds of aviation units have different missions, and the 가 가가장이는 일구를 가지고있고 속을수요 통일수요가 들극이 구르기 때문에 experience levels and abilities of aviators differ. The starting point 음동성있게 이용될 필요가 있다. 문항결은 위험을 is to analyze the threat and determine how the unit will defeat that 문식학교 투자가 이 위험을 구부시키는 항공을 통하는 가는 것이다.

threat. This will allow the commander to select those mission tasks his 이것은 지위함으로 나타를 그 이 투자가 수행되어를 할 일부가지들을 unit must perform. In turn these mission tasks will be broken down into 선퇴가게 나는것이다. 참으로 이 일부가지는 일부가장 우호일도 나뉘어지다 the mission components or individual tasks to be performed by the aviator. 모든 기계인이 가업으로 나누어가서 승투은 이 수십다가 되는것 가수.

Then the aviators are evaluated to determine their spility to perform 따라하시 교통사들은 구도인의 가용을 수행하는 등부을 통해하기 위에서 these individual tasks. When they attain the require level of 공가되는 것이다. 그들이 필요한 수술에 드달보존 두지는 proficiency the unit is evaluated on its ability to perform the 집에간의 감무를 수행하는 등록이 당가되는 것이다.

collective combat mission. Training will then be developed to 프릭텔 공가능이 속문가들로 밝힌말

emphasize the areas shown to be sub-scandard during the evaluarions. 현학법은 강당하기 위한 논문이 강부분이 지금것이다.

Throughout this process the five phases of NO are evident. We 여성한 가정을 통해서 SID 및 5가지 는건가 확실하다는 전혀다.

unalyze (France I) the chrone in order to solve the mission we must be 하나 하는 사람들이 하는 사람들이 하나 하는 사람들이 아니다 하다 하다 다니다 하는 사람들이 (Phase II) car craining by breaking the 다양된 전체적인 양보양수를 회지가 양보를 가운 일부로 대통하여 down into individual cask nacessary to accomplish the mission. 나누지 문을 가입한다는지문하다.

We then <u>develop</u> (Phase III) a plan to teach those mission thak either 기업무통하는 부지는 다음 교육 보고 함께 다 이용 교육 무슨 무슨소금을 through field training problems. use of the SFTS, or some achor means, 물리다 보호나가 되게 기업을 전기시킨다(지급하지)

Un then implement (Phase IV) or conduct the training and control 나는 문 부 등 사가 등 보고 다 하는 등 바라 등 보고 다 하는 등

(Phase V) it through evaluation to insure we meet the objectives. The 告诉(图:30 元)

ARTER can be described as the building we want and the ATM as the stack ARTER but the public of bricks we have no build it from. The Commandar's skill at publing think a fact that the firm the Grander's skill at publing think a fact that the firm the firm the public that the firm the firm

the blocks cogether decermines the screensth and beauty of the building

he makes.

#### IV. CONCLUSIONS

£ 62

To be decormined by participants in the Training Workshop. 교육은 등은 인수들의 발속하여 느무의 관광절차.

Considerious should be based upon the working presentation and 是是是 上京 《 內內區 八谷區 八台 中上是 明 是可是 中心中 证书。 discussion.

#### V. RECUESSENDATIONS

. 7. Q.

To be determined by participants in the Training Workshop. 집에는 연구전형 출석자동의 유지스 결상문자.

Recommendations should support the conclusions.

ISSUE: PUBLICATIONS AND AIDS. 연구 발가보자 고르자

I. INTRODUCTION

푸겍

Training publications and aids are materials produced to assist a 운전을 관간을 기요하고 지는 함께요한 다음하기가 있다는 스러워드부 person in learning or performing his duties. In producing or revising 기업하기 위치 서 만들어지는 문학자들이다. 운전을 자유를 만들어내기부 training materials the basic philosophy of the ISO process must be 고정해 먹는지 있어서 가장의 기본과 허통음과을 기억니아를 만나, remembered. That philosophy is to identify the task and then direct 오는 가지를 인식하고 가지의 부발한 무료의 무합하도록 all effort at meeting the specific objectives of that task.

나는 느로운 기수라는 것이다.

II. PURPOSE

This issue will acquaint you with some of the publications in 이 불규들은 두가이지 유근 항공이 고장 발견들이 되어 알때고수
Army Aviation. It will briefly show how they are written and revised.

하는것이다. 이것은 출납들이 실립되고 고정되는 등급을 감독한 설팅될것이다.
The primary purpose is to show the importance of using the ISD process
수면 무취은 유문항공을 못하십시는데 오징되는 출산물은 출간에서는데ISD 가장
in producing the publications required to support Army Aviation. This
를 사용하는 중요점을 설팅하는 것이다.

issue is focused on how to revise and prepare literature intended to 이 발간들은 부가가 그의 작무와 갑자기는 가게를 알고 수성하는 구 모음을 help someone learn and perform job related tasks.

부부부 역보면 논참서술을 가정하고 받지나는 강함에 나온을 부모였다. III. DISCUSSION

± €

A. <u>Ceneral</u>. Today the amount and kinds of training natorials 기소 도도를 높은 것으로 양가 가르는 스트웨 근수를 are expanding napidly in order to keep pace with new incline, destrine

and equipment. They include Field Manuals (FM), Technical Manuals (TM), 是是是 中心 中方 名子中产品 中台工艺,中台工艺,中台工艺,中台工艺,中台工艺,中台工艺, Army Training and Evaluation Programs (ARTEP), Video tape, movies and

Training Extension Course (TEC) lessons, to mention a few. All these

materials can be used for reference. Some of these materials, such as

THE LOW AS THE STATE OF THE TRANSPORTER TO THE TEC. Leasure, are training tools which follow a step by step teaching

THE TEC. Leasure, are training tools which follow a step by step teaching

THE TEC. Leasure, are training tools which follow a step by step teaching

procedure, he new and improved equipment and techniques are introduced,

training publications and aids must be produced and reused to neet the way to be a requirements.

Nos Syne St.

b. Parformance Oriented Writing. Training materials are written 문학 유교는 당시들이 그의

to addict a person to learn or perform his duties and tasks. Such a solution materials must be performance oriented. This means the information in the solution of the solution. It

gives him the information needed to identify what the job is and how to the job. It does not waste any time explaining concepts or facts about the task which are not needed to perform the task. To prepare to the task which are not needed to perform the task. To prepare

performance-oriented macerial you start by identifying who the user is 创新型基本 沙丘曼 在阿斯利亚斯 外亚岛 八名六卷 四元 皇皇中帝 合作

going to be. In doing this you must determine the surject-related duties 이렇지 나는데 있어서 나용자가 수품을 느무와 업무의 간물된 and task the user will perform. If the user or audience is not properly 주제를 걸겁지다 함다.

identified, the product will tend to become a general reference with 없다운 문법문은 이용봉투에 처리할 까지요 보는 수술이 수울되는 일반의 application to everyone from private to Commanding Officer. This would 사용이 및 경쟁이 있다.

force the traines to figure out what material pertains to him and his 비논문가로 하으는 어떤가르게 그와 그의 국무의 급경을 가지는지 승규의

job. This will waste time and can lead to errors of interpercation. 나보후 남는것이다. 이는 제공의 낭비이의 나무의 오류는 등을 수 있다.

When you have identified the user you then translate your knowledge and 사용가운 알게본다면 되면의 지식가 무지의 강한 가능한 기술의 경보는 되는건가 the technical informat valiable on the subject into the inscructions 가 그의 의무는 수성가는 그 있는 장소가 있는 지원으로 근함에서는 것이다.

the trained will need to know to perform his duties. This translation of the.

will take into account both the analysis of the job (what does the 역부의문식(의문문자가 무엇을 기운필요가 있는가?)가 그는 문자의 문의 traines need to learn to do) and the analysis of the traines (what does (고가 발생을 이의일바다 지부하고 있다?)으 누구가는 노르는다. he already know how to do).

학생은 지수는 근심학교에서

schools and are self contained lessons which the hi soldiers to perform 눈병하였고 근인들이 그들러뛰어 오구워는 우수 일부를 수능받는 있도록 pacific casks required by their jobs. TEC lessons use the audio-사수은 시설과 고적인 上記事 (자조시는 가까요즘) 보답합다. visual and princed formars. The lessons include a film cartridge, an 이 숙속은 생들자느리가 성당하였다 고압을 표면된 교육을 가운 맛다. audio passette, and an instruction sheet. They are used with the =数15年。 이 목숨은 그십 구화/세술 Baselar fue/See, which is similar to a TV. It allows the soldier to 여겨온 병사가 눈적해결없. 사용하는 지 그들은 이 보이와 유구나다. stop the film to complete we problem or to go back and review material 의場 불률은 경기시킬 수 있고 다시들은 일일하지 못함 부분은 우습 tes did not understand. This allows the soldier to work at his own pace, 하는 방식자신이 자신의 씨이스트 공부다고 맞춤에 设备车 盖节。 making responses to the lesson requirements. 부수분는 거리는 숙장감다.

An important feature of TEU is that each lesson includes a pretest. 이 등로만 당하는 과상부터가 가입으로운 느밥하고 있는 X이다.

A taking the pretest, a soldier can determine beforehand whether he nois 가운지를 통해서 공자는 낙출이 글으를 것인지 수선에 결심할 수 있다.
the lesson. This pretest feature allows the soldier to concentrate his 이 사건지의 있지는 공사들이 누가는돈이 우구되는 문어에는 time and affort only in those areas where he needs additional training.
시간과 노후은 결동하므로 난다.

or TEC lerson are the instruction of new equipment, new procedures, 교육는 지수은 공계 실수 경작가 업무는 수영 당수 회약는 or, a determination that the person is not able to perform the task than 걸는이다. 논문자로는 공사들은 가족을 수 있을것이다.

training material is supposed to teach him. Training materials need

constant review to insure they are current and are meeting the training 고시네이 있는것인지 그렇고 눈문부족으 수살되는 것은 사람인나가 위해석 objectives.

누납합 검토가 글으약다.

IV, CONCLUSIONS

卫圣

To be determined by participants in the Training Workshop. 교육연구 집회에 들러가들에 드네스 표정되는.

Conclusions should be based upon the working presentation and discussion. 결혼은 도본 함에 제시된 나용가 또와의 근기대야 한국.

## V. RECOMMENDATIONS

강의

To be determined by participants in the Training Workshop. Recom-건지는 그유민구 실명에 갑자한 사용문의 되어가 불러됐다 mendations should support the conclusions. 결혼을 못받실해야 한다. TESUE: SIMULATORS-SETS-SOFTWARE.

지역: 그의관련 장비 - 제상원검기 결과학 운용기술

1. RETRODUCTION

The Synchetic flight Training System (SFTS) was developed to 지상 (도인) 비장 원원 장비는 지은 비용이다.

provide realistic avaction training at reduced cost. It introduced 실절적인 항공운전을 하기 위하여 발전되었다. 이 장비는 Into Army aviation the latest state-of-the-art advances in training

E변고안들의 성지와 기술에 있어 최신 기술의 발급로 . 육균망공역 device design and technology. Through use of a sophisticated computer, 소지되었다. 정교한 골푸덕을 사용반다면,

a very realistic device can closely simulate aircraft functions and 항공기의 기능과 작동을 거의 신제를 만과 등입하기 있날수 movements. The UH-1 STTS, 2B24, was the first of several simulators

있다. ud-1 SFTS. 고리고수 는 미국군을 위한어 발달되고 being developed and fielded for the US Army: The 2124 is an instrument 제공된 및 제의 시용력이터는 최초의 것이었다. 2 B 나는 일종의 procedural trainer. It has an additional capability to simulate most

기기 설치 출연기이다. 2824는 모든 UH-I 의 기능고장이다 UK-I mailfullictions and emergencies, many of which cannot be demonstrated 비성 등장의 크트로 재연합수 있는 추가적인 능력을 갖추고 있으므 in the aircraft.

이름등 많은 것은 항공기로써 시범보일 수 있는 것이다.

II. PURPOSE

목적

This leave will focus on the development and operation of the UN-1 ... 이 발견을 UN-1 SFTS TUE UZBZ수의 발발과 운동이 트린 도한 SFTS device, 2524. It will emphasize the importance of designing a 품질을 두었다. 그것은 특별으루를 수강하지않아 운영되었을 설계의 craining device to accomplish a specific task. This paper is not 중요성을 강포하지 및 것이다.

intended to instruct operation of the device or teach computer software 교안들의 온용이나 골유가의 온용기술 집차를 가르치는데 있지 안다. procedures. This issue paper will show problems the US Army has 이 발간서류는 미욕된 비행 시원 메이탁 지휘의 발전및 experienced in developing and fielding its flight simulator program. 基本 작징에서 경험 밥 박 있는 문진쯤은 보여 추기 위한 것이다. III . DISCUSSION

1 의

A. The first US Army flight simulators were converted fixed 취소약 미옥군 비행 시뮬레이지는 고정인 기기 문병기로 ving instrument trainers. They were solely for instrument procedure 그 비행 시뮬레이막는 순천히 국가당차 훈련을 training. These simulators neither looked, falt, nor reacted like a 위한 기이다. 이동 시뮬레이틱는 박향들의 레기와 값이 불수도 느낌수도 helicophe: in flight. In 1965 the Aviation Center was asked to develop 없었고 또 한 반사행동을 핥수도 없었다. 1965년 창공센탁는 길이름하지기 ins requirements for a halicopter instrument trainer. A study was 문항기로서 이에찬 요구사항은 밝힌기카에는 요집은밥았다. 커벙시급보이티를 design to desermine what areas of Hight waining could benefit from 이용안으로써 비용문전통 어떤분하게 유익할 것이어 또 이번 개통이

use of flight simulators and what technology was available. 가용을 것인지 길장하기 위한 연구가 땅바여 졌다.

acudy concluded that computer technology was available to produce a 품휴 먹기분이 디부분의 게기비행 동작은 밝수있는 효과적이고 실제적인 cost effective realistic simulator capable of most instrument flight 시뮬레이막톱 생산함수 있다는 것이었다.

movàments.

Research also determined that the simulator could reduce inscructor . 현의 인구는 또한 시뮬레니까는 자동차인 교수변과 경가계획을통까여 pilor requirements through automated instruction and automated 고강 두통사 소요를 중입수 있다고 경쟁했다.

The contract was awarded in 1984 for a developmental evaluation programs. 1969 년도 에는 1971 남소에 시설용으로 인도된

model which was dulivered in early 1971 for teating. 발전단기의 오징역 도반 지역이 제기되었다.

B. The first step in developing a synthetic flight trainer, is 지상비장는 전기 방당한 있어 최초당기는 분인기의 목직을

to detarmine the purpose of the trainer. The training device must 그 분인 그 않을 은 학생들에게 김희씨는 것이다

be designed to teach the student a certain set of casks. A trainer to 이번 입부를 심장하여 가르지도록 성격되어야 한다. ceach normal VFK aircraft manauvors must have some sort of visual display. 교작을 막으지는 올린기는 및가지 종류의

A devine to train gunners on weapon systems, needs some means to allow 무장지통의 지수분인을 위한 고양을은 합점이 고장치를 자용하여 시기기로 the acudent to fire and adjust fire using the system. Probably the most 아마토 기둘門이타 사기를 조정하는 있는 및가지 방법을 기도로만다. important aspect of developing a similator is to keep the student's 지방에 있어 가장 종요간질은 학생의 흥려 무적은 가장 참 유지하는 realning objectives foremost. Any training device can be as simple or 이번 문헌창비를 바꾸 그것이 학생들에게 거이다.

se complex as needed if it does teach the erudent the desired task.

요구가는 입부를 가르신다 때트라도 필요간 간을 당는 가기나 복잡합수 있다. In the case of the UH-1 SFTS, 2524, the purpose was to teach

UH-1 SFT5, E B 24의 경우에 있어 그목적은 그가장자를 가르키는 instrument provedures. By using acqual aircrait bardware, the cockpit 신제강공기를 가용답으로서 요청심은 내는 -1 기익었다.

looks Eska a Un-i cockpic. Computer technology provided a means 한 기시이라는 도급실과 많지도인데.

link control responses with motion and instrument indications. 조작은 건강으는 방법을 지급한다.

provided for a device that rendeed very similar to an entual UH-1 집 및 내가 그리지 유지 가지 반지 행동을 많은 있는 그 함께는 전공간다. aircraft. The 2824 was designed and built to train pilots to fly 2824는 도통가가 게기비행을 하지 못했다도록 성기되고

instruments. It is most important that the student learn the
지자되었다. 박성이 계기비행을 하는데 말로한 결칙을 비우는것이 가장
procedures needed to fly instruments. As a side offect it gives the
품모든것이다. 부적적인 보고도시 23와는 박성이기의
student the illusion of flying, but that is not forecost in designing

실제의행동에있어는 환상은 두는 것이다. 그러나 눈병기를 설계하는데 있어

그것의 가장 중요한것은 아니다.

The ability of the 2824 to stop in place, allows the student and 2021의 등 및 은 지당한 트에 경지하여 학생과 교관이 부습하고

instructor to raview and correct errors prior to continuing. The 기사를 가는 것이다.

playback, visual displays and repositioning capabilities of the 2824 2B 2분회 자신,시작업시및 역원진단 등특은 강경기의

are not simulations of the aircraft. They are training features which 그것들은 비망기송의 각속을

Forilitate learning flight skills. Unless the equipment designers 용이제가 가는 문항트용들이다. 장티의 심지자와 표명

and training developers work closely together, expensive hardward 기비치는 함께 가까이 일막지 않으면 비싼 문편기가 additions which enhance exact aircraft duplication may not improve 항공기를 정답히 지역 할수 있는 등록용니가 이루어지지 않고 문편 and could even distract from training effectiveness.

प्रमाणिय हरेगा हुन प्रस्त

Another factor to consider is the complexity of the trainer. If

we design and build one she later to teach instruments, gunnery and 민이야 후 이가 안 서울 뛰이라는 게기, 사수있 시간비안 기술을 가던지기

visual flight techniques we may not be able to manimize its profiless. 위하게 건강하고 체작했다면 우리는 그 표용을 국무를 받는 없을 것도 모른다. by tesigning samiler, less complex trainers to serve each function, 보막작고, 발목장의 군인기를 즐기막이 가 기능을 부여도 중으로서

we can more afficially crain. When a trainer with several functions 우리는 미옥 토과장으로 공항당수 있다. 및 1차 기능을 가칭 논란기가

is being used to teach gunnery, it is not available for instrument 사수고부의 가용되고 있을때는, 그것은 기가운전적는 작용들은 없다.

training. If we have Suparate trainers for each, them simultaneous 영학 누지가 가기 본의된 급립기을 기가고 있다면 그룹 모임

training can be conducted, thus better utilization of the devices. 은단은 수행당한 있으며 이것이 고안들의 보다나는 학통법이다.

C. The ability to simulate aircraft functions has been proven. The 강공기의 기능을 중되었다. 나는 등록은 증명되었다. 사용했어록의

use of simulators must be viewed as a part of the total training system. 유용점은 건지근을 기름의 간꾸분으로서 장각되었지만 합니.

The question to be answered is, "Is simulation is the best method to 기압이 주의적인간 의문점은 『오의가 돌면이 최상의 방법인난?"

rain?" The selection and dusign of training equipment must be a careful 하는것이다. 논립강박의 선무관 설치는 무우리다고 #의 표그는 틀립었다

process. It must follow a complete analysis of what is the training 그것은 근원의 목적이 무엇인지 완전간 근석의 뛰다닥약단 찬약.

objective. It must include any feature which would enhance the learning 막성면 역할 시 역할 수 지원이 중되면도 지원의 우지원이 중되면는 어떤

and retention of knowledge by the student. The 2B% has proven to be 독점이 된 발탁이야 한다. 2824는 제기점의 문법은 할아있어

a "cost efficiere" method to provide instrument procedure craining. 기지적인 방년인의 인종되었다.

Although the initial purchase costs are high, over a period of years 교실구인보다 회사기단 수분인 제단구으는 증명하여 항공기소리는 it can reduce cotal costs and aircraft requirements. 기소 기업수 있다. Our US Army experience has shown that the purchase cost of the 2B24 후 한 미유군의 기업은 2B245FT5 의 구입되기 문편되의 기속을

STÍS has been quickly payed back through savings in training costs. The . 통일과 지방에 보잡되었음을 보여 주었다. 미국군의

US Army cost for operation a UH-1 is \$267 per flight hour. The US Army UH-1 운동비는 및비항시간당 267 달력이다. 역육군의

cost for operating the 2024 is \$65 per flight hour. This results in 2824 를 매시간 운용하는 경기는 65 달림이다. 이렇게 매서

a savings of \$202 per flight hour by using the SFTS.

를 가용합으로 시 해 비행시간당 202 달라를 저속하수 있다.

D. Now that ROKA has contracted for purchase of a 2824, UH-1 flight 지급 간국육군은 UH -1 비쌍 시뮬레이터 2824 의 쿠웨지약을

simulator, they must plan how to best use the device. The most important 가지고 있는데 그장씨를 어떻게 잘 사용값지 지구하여 한다. 1824억

factor in using the 2824 is commander emphasis. Without support and 작용적 있어 가장공인간 사장은 지원관의관심인터, 강공기원관의지영국

influence from the aviation commander, the SFTS may not easily be accepted 일합한번역SFTS 는 한국부를 고용기를 역간 화면 받아들어지지 않을까도

by the ROKA aviators. US Army instructor pilots were initially hesitant 요즘다. 이웃군 교장 조동기들이 최초의논문인기의 대한 확인의

to fully use the 2B24 due to a lack of confidence in the trainer. As 그됍으로 2B24 의 완전 사용을 망설였다. 고관곡

both the instructors and commanders became wore aware of the capability 지휘말이 모두 SFTS 및 능력을 돌더 않고말에 따라서 그들은

of the SFTS, they began to trust and better use the trainer. 그운전기를 신뢰하기 시작였고 느닷가용 가지 되었다.

There are several alternatives available as to how to use the 2B24. 2B24의 시용방병에 따라서 열차지 부수적은 역용병기 있다.

It can be used to provide initial instrument training, to maintain 호B2부는 최고제기환경이 시용되는 있고 제기속당은 유지학교

instrument proficiency, to evaluate instrument proficiency or a 용가기기다 상기 부수적인 방법은 복음하게 작동당수 있다. combination of the above alternatives. Now ROWA decides to use the

device may well affect other aspects such as operator selection. 길정하는 나 가는 것은 운동자의 선정되고는 다본점이로 병장을 미칠지 모른다.

Because of the large numbers of ROWA personnel that will require 항국육군은 최초 편기는 영국 기기가들을 지 순행이 도구되는 양손수익

initial instrument training or instrument refresher training, it may 도중시를 보유하고 있기에는 이 요요나는 의소의 함께 지기

well be best used solely for this purpose initially. 표 en instrument 문항목적으로 한 사용당소 있을것이다. 그 등학자 방향 방향의 기기

instructor, pilot will be used in each cockpic, then the conscie 고관출사가 가족들실은사용가기 된다던 관광 운용자는 방기

operator may only be needed to set up the computer program and monitor 공유가 도로그램을 수있하고 말통을 갈챙기는 역간 중요로 간다.

the activities. If an instructor will not be needed in each cockpit. 당약 강조동의 각기통상의 필요은 학자 안는다면

다음 한 등 등 가는 경을 보통 통 기상 비급에 서로 제공기는 등 기을 then the coupole operator may need to have the capapility to provide

air traffic control and flying instruction. Our US experience has been 그림도 한 기가 보는 다

that during indical instrument training pariods, with an IP in each . 역소 기가문인 기간동안 각조종신의 간문 발조동사가 있었고

cockett, operators need only know how to operate the console. During 은용기는 전혀 조심을 불활하는 방병인 중인됐다.

periods where aviators conduct proficiency training, console operators > 조용자동약·동문과 순점을 수강하는 동안 경소, 눈용기는

knowledgeable of ATC and instrument flying procedures are needed. As 공문교통 통제의 기계비계 전체이 보다 하기이 만든 기계.

you gan see, device delization affects other factors. 단보시는 딱도 같이 로안들의 이웃은 드는 도소의 등등들이번딱.

To derive maximum training benefit from the 2824, the instructor 28 鴻遠 부터 최민은연호과본업이니가 위인서는 민감 도등사가 pilots must be knowledgable of how to use the device. US Army studies 이라비는 운용자는 넓은 가 아이야간다. 미육는의 연구는 showed that most instructors were not fully ewire of the full training 지부분회 표관들이 2월2년의 왕건은원기동성이 지지서 함천기 potential of the 2024. We establish a short course to teach the instructor 그 역시 우익는 교 BE 동기들 에게 SFTS 및 항전간 아이른 호겠다. pilots how to fully use the SFTS and as a result training and utilization 사용計划達 가드시기위한 값은 과정을 신성했다. 그리고 그경국 were greatly improved.

근연과 이용법은 아무만이 항상되었다.

E. Console operator personnel selection is very important. Past US 養養 속 눈용자의 인원전밖은 약후 공요하다. 과기 이유의 experience has shown that anyone can be trained to program and monitor 괴실은, 축구나SFTS 의 프로그램은 작심지고 합청가도록 운영되수 있을요 the STIS: Novever, by selecting personnel with Air Traffic Control or 그었지만 공통교통통 സ가 강금의 김정노장은 인설용 도 이 주 현다. aviation background we have trained operators that can enhance the use 신발감으로서 운용자의 28 24의 왕도는 농드시켰수 있도록 들면 of the 2824. These personnel can assist pilots and explain procedures ·주·임디· 이러간 사람들은 조종산들도라다고 전사를 전염값으로서 thereby increasing training effectiveness. Operator training can be 동원회과본 등디스킨수 있다. 고기업무 이 의단을 반속되다 conducted in several stages. Familiarization with the console is 근출과의 선수기가는 이유끝노에서 인정의 수 訓탕수 있다. currently conducted within the US Army by means of a series of 그 보고 한 함 되지다 십 기 또 한 다는 다. 밤 번도 보는 경기 program texts and "hands on" practical exercises. The practical 수입되고 있다. 장작권인 선수원 exercises are extremely helpful because of a lack of computer backStound among most operators. After the console operator has become

proficient with the use of the device, he can be realized to provide 이루도 운용가는 지안된 표등고통 등 하나 이렇지 수 가도록 limited air traffic control or flying instruction. This additional 문명 등수 있다. 이번 가지 하나 아이들에 가지 수가되었다면 training is not usually accempted until the operator has first learned 문명은 유용자가 들는이 장비의 운용병은 때을 보도고 남구의

how to efficiently operate the device.

F. In addition to purchasing the simulator and training the console 지유 타이바 구입이 있어 추기사항은 분들 눈을 처음 순천 1조

operators, training support equipment must be produced. Instrument 문명 자용장비를 펼게 무인하여만 존하.

atrusy charce, approach procedure charcs and other interquent oublited

entions must be obtained that correspond to the information within the 기타면지이 변기 위투로의한 간다.

the actual Korean instrument system. If non-Korean or training of the first of the

air routes and approaches are used, new publications may have to be 점문방병에 가능됩니다. 지도는 그 기문의 의로도 하여 급하는 obtained.

The type of computer program uses should facilities the crestains and a the crestains

requirements. The present Koroan aircal structure or rather special out of up.

with few instrument appropriates at any one location. This may not be identified on the propriate of the SHTS in

for training using the SITS. It would require much enroute, scraight 사용 지자 유민하기의 비의상적일자도 모든다. 그것은 만든값도 비장, 수등

and level, flying to accomplish saveral types of approaches. This 조직선비장과 및 가지 종류의 전근방병의 수행은 권요도 밝것이다. 이것은

co is be overcome by the console operator changing the aircraft location 콘슈트용기가 강공기의 위치를 몇번이고 바깥으로서 구속될수 있으나

nowral times but would still detract from training time. Although 여전혀 들린시간은 급소시킨지 되는 있다. 플용기의

-air:: fit location is easily changed by the coasole operator, the student 역치기 원교 운용자이 의치기 설계 바꿨다고는 하나, 학생과

and instructor must take several minutes to option themselves on the 교관은 시고은 위치와 그익지가 나왔었는 비행간장을만 지정하다여

new location and reafrange their flight publications to reflect the 이동 전략이 기를 다.

new Lucation.

Another way to train would be to ald more approaches to the 학론 설명 방법은 및 위치학자 지만은 전환상병을 통유학 역

computer at each location. These approaches would not necessarily 추가하는 것이다. 이루를 가고은 한국 박양방에서 설립

correspond to the approaches actually available at a Korean arrield. 가용장 정근방법과 방도시 인치하는것은 이니다.

This would allow the student to fly more instrument approaches without 이것은 학생들이 무지점 사이를 밝혀지는 초과적인 시간이 없이

excessive travel time between locations. 트립은 경기 최근 비명은 감수 있도도 간다.

Destly, a simulated air route scructure could be established and 최근, 모임강로의 구조가 작성을수 있어서 길뉴트에 수독되

programmed into the computer. This could correspond to another location, 인물은 포트라인터 간이 다는 권장장되어

such as Fort Rucker, but does not have to. This air route structure 일하整有公司하는 경찰자나왔다시입지 난 김요는 없다. 이 감도의 구조는 could be tailored to best past the needs of the training. A similar 문장소요 약 가장 부합되도록 만들어 진수 있다. program is being developed at Fort Rucker and examples are included 聞합이 포트살아이시, 지방되고 있으므 그 명각자 예약 지수하는데 in Figures 1 through 4. Because it is strictly for training, this 4 항전적이 보답되어 있다. - 외낙까면 그것은 왕진 문편을 위간것이다 system prevents any confusion with those facilities that are actually 이체체가 쇼트 비합창에서 이용가능간 시설론과 근모을 방지간다. available at an kirfield. It is also structured to provide the instrument 그것은 또 훈련을 심지 하기워까여 밀효항 approaches and airways necessary to easily conduct the training. '팬케젊'함짝 함토를 제공하도록 구성되어게 이다.

A combination of real life and simulated rams may best meet 신청상품과 되었지되어 결과는 한국 부분 의 호구의 가장함 the ROKA requirements. The US Army usually obtains two or more 부간간이 도본다. 미숙근은 사용들인 가 SFTS의 등상 문제는 domputer programs for each SFTS in use.

可欲은 김규익 우모그램을 진행하고 있다.

As you can see, there are many considerations involved in 보기는 비약 같이 SFTS의 운동에는 많은 그런 그런 것이 operating a synthetic flight training simulator. It is not sufficient 포함되어 있다. 그장비를 많지 to simply own and operate the device. To derive maximum benefit from 보유하고 용용하는 것만으로는 용문지 않다. 그는 한기로 누락 되면의 다른 단계로 누락 되면의 다른 단계로 누락 되면의 다른 단계로 무막 되었다.

iv. conclusións

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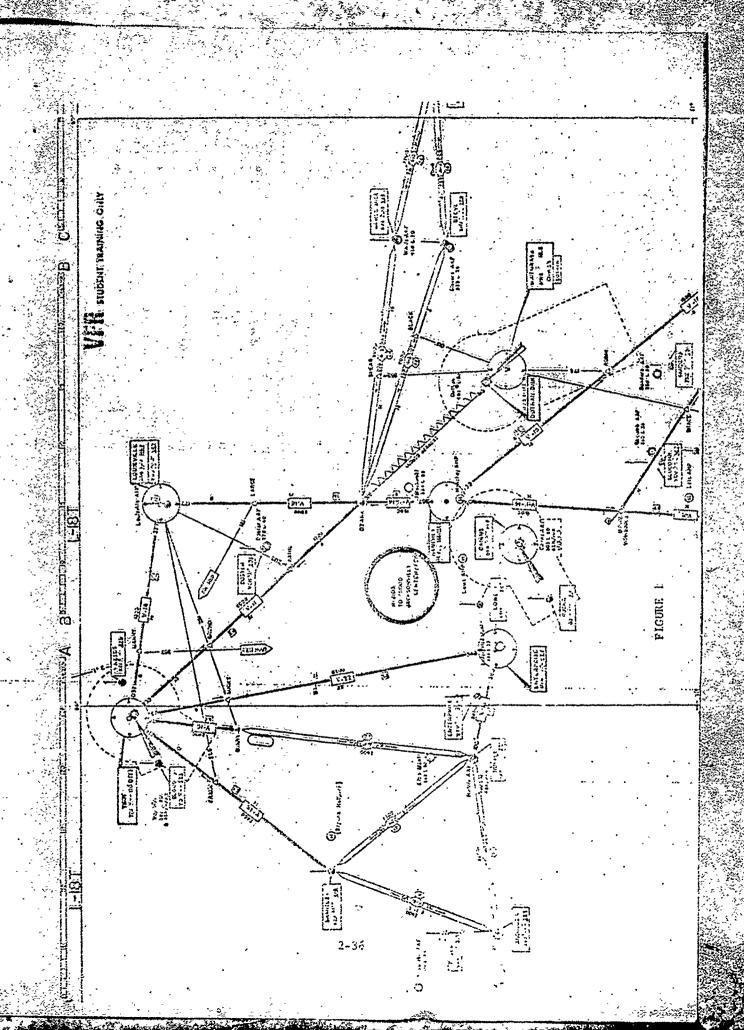
·To be determined by paraboloanes in the Training Norkshop.

Conclusions should be based upon the Workshop presentation and inschedion

v. Recommendations

To be determined by participants in the Training Workshop.

Recommendations should support the conclusions. 전투기가는 기본을 됐어할 것이다.



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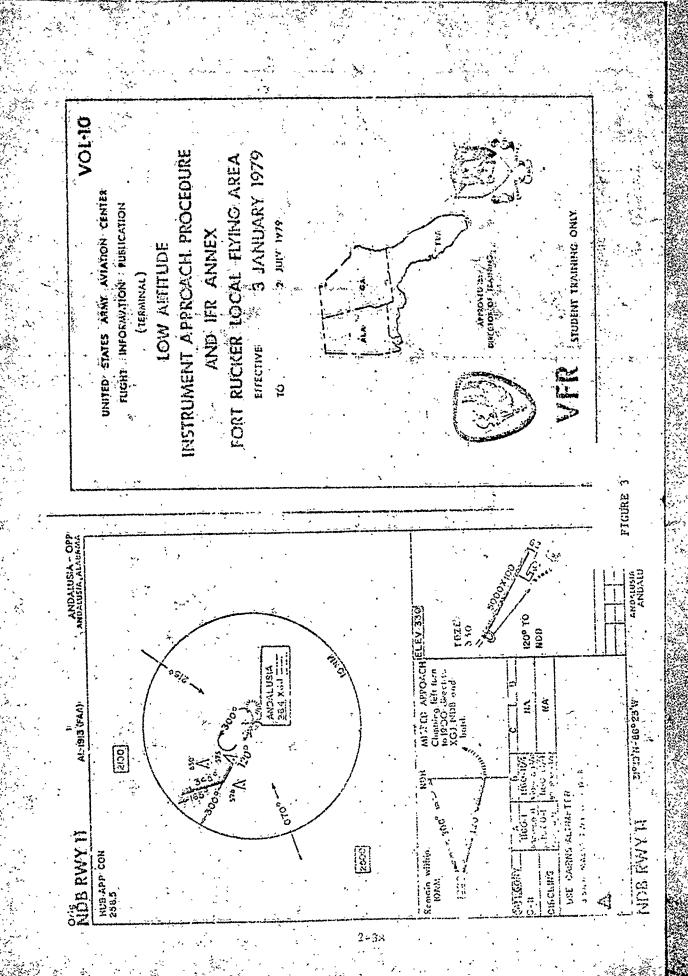
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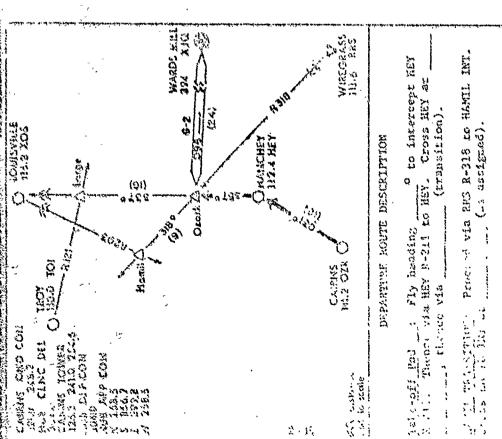
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## TABLE OF CONTENTS

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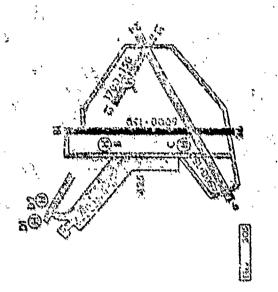
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TALK OF THE START

LEXITED STATES ARMY AVIATION CENTER

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## 4年

FOR STUDENT PRAIRING CHEY

APPROVED BY DIRECTOR OF TRANSPIC

TRAINING WORKSHOP TWO

교육 연구 집회 (11)

Personnel Training

계인 교육

ISSUE: AVIATOR TRAINING.

전을 가닐고 의자

T. INTRODUCTION

소 개

With the projected sharp increase in aviation assets for the Korean

한국 육군은 최한 육군 항공의 과제가 급격적 증가되는 연구과적의 기술이 Army, there will obviously be a sharp increase in personnel requirements.

개인 항공 기술도 농가 일로에 늘이고 될 것은 작명한 수값이다. Projected ROKA craining requirements are for approximately 950 aviators

기계된 한국 육군의 원턴 소요는 1962년 이년까지 인기 노취을 용당 to be trained before 1982 in order to fill all authorized aviation

이기 위해들잡아 950명의 조용사가 훈련 보통 될 수 있어야 한다. positions. Additionally, the training facilities must be capable of

. " 부가적으로 교육 시설은 최근의 제택하기나 진급 된 기를 fraining replacements as current aviation personnel depart the service

중당합 수 있도록 한편 보증 될 수 있어야 한다 or are promoted. The United States went through a period similar to 미국은 얼남전 기간동안 항공의 중요성이증가 되었던 시기 this with the increased emphasis on aviation during the advent of the

의 유시한 기간을 겪었으며, 전력 직정비사에 소요되는 공주 Vietnam War and is currently in much the same situation with the rapid 리 팽창하는 고련 소요의 독값은 상황이 취임 있을니다.

expansion of training to meet force realignment requirements. We have

우리

discovered that our training base and methods of training were not 현재교육 장소약교육 방법으로서는 그르한 테큐모로 충격하고 designed to support such a large increase. We would like to share some 있는 소요를 충발 할수 언음은 알기, 되었음니다. 우리는 과기의 경험을 살려서, of our past experiences and current planning with you to help lessen 한구 유문으로 중기하고 있고 문편 소요이 대한 제시를 들는 공사 the impact of the projected increased EOKA training requirements.

## 11. Purposa

響上響

From the sound of the trial and according to the L' 35 AL.

tri. drscussion

重: 司

There are several facets to be considered in meeting increased of Total The Salat Sa

- A. Initial Entry-Rotary Wing Training.
- 표는 기가 기는 문건 B. Transicion training both Rotary Wing to Rotary Wing and Fixed 지난이 기사 회전이으로 기정이야 되면이으로의 기종전환문편 Wing to Rotary Wing.
  - C. Qualification Tracking of IERN Scudents.

확인의 1는 근현 항상의 까가 수익

A. Initial Entry - Rotary Wing Training. The United States Army

the number of aviators to be trained each year. In planning for this

increase in training we have applied a systematic approach similar to a figure in training we have applied a systematic approach similar to the Instructional Systems Development technique. This rechnique uses the five step approach to problem solving. The five steps are:

지선가서 없는 방법을 희택되고 있을이다. 기선기가 방법은 어디와 말습니다.

是 分

2. Dosign

经 当

3. Davelopment

1) 회

4. Implementation

4 3

5. Control

其列

We have taken the first step in this process and analyzed the problem. 우미는 이 디디어서 됐던 나면 뭐 그 모지를 본섞었다. The areas that we have determined need to be developed are: 우리가 계념하다 하고 바닷지에서 참 문어

1. Aiveraft Requirements

가공기 소요

2. Academic Classroom Requirements

五年兴 主丘

3. Silketing, Mesahall, Life Support Requirements
4.4 April 2017 2017 4 5

The boundary Douglastraints

4. Instructor Requirements

5. Adriled Support Requirements up 3637 21812 1.

6. logistic Requirements 老年生息

- 7. Transportation Requirements 子名 在요
- 8. Maintenance/Refuel Requirements

  STI / SETILE 16

Once the areas were identified we proceeded to the next step in the ... 인단 그분야가 시민되면, 그저정의 학문당기도 전쟁기억

process and decermined the actions needed to solve the problem. For 문자 기의 교육 및 기정 등은 기정 환자.

'example, with Instructor Requirements we initially identified the 고관보도막 할때 우리는 추가도 소오되는 고관의 수와 중요는

mumber and type of additional Instructors needed. Having established 최소도 압우하다.

this we then determined who was qualified and who would need to be 유지기자의 문편은 발탁한 단사장은 결정기가가다.
trained.

In the next phase of the process we develop a program where the 고정의 지기방기도기 소유에 접기에 등록기하고 역하시 instructors would be qualified in the proper skills and numbers in time. 이미에서 전망한 기능은 가진 교단은 그당한 수간을 작가는 것이다. to meet the requirements.

After this plan is developed, we implement the training necessary to 이문지가 지금된 구역는 소요를 충혹하기 되고, 기요한 교원을 하cet the requirement. When this is accomplished the instructors are 수 있는다. 이문지가 지금보인 교원은 병기보이 evaluated and assigned to their controlling departments. This approach

evaluated and assigned to their controlling departments. This approach 을 하는 약약 보지말하는 역사로는 급설함으로 하다.

· was applied to each of the areas identified in the analysis phase and 확인된 가기분야? 제용되었다.

then an inverse planning sequence was applied. With this acquence to 생물지 같이 연수 기용된다.

decided when the task to be performed must be completed. Then we 그렇다 보면 지하다 가입이 없다는 것이다.

was extriblished we looked at the desired completion date, backed a second of the looked at the desired completion date, backed a second of the looked at the accomplish the task, and we were the account of time it would take to accomplish the task, and we were the second of the date that we would have so initiate each action.

A second of the date that we would have so initiate each action.

This inverse planning sequence was used with each area identified. 보호하기라는 밖인된 가는 아이 지속 맛있으니다.

Then each task was graphed using a time line graph in an effort to 가입다는 조직적인 방반으로 필요한 각독장을 조치는 지워하기 되만 plan necessary courses of action in a systematic manner. An example 노릇은 기간선 그것도를 자용 그리고는 그런데. 기존적인 이는 of this technique is included in Inclosure 1.

점부 :에 도압되어 있다

B. Transitions ~ Fixed Wing to Rocary Wing. The flexibility and 고정이야시 인격이오도 기통전환 등통성이 있고 mobility offered by the helicopter has decreased the rolliance on fixed 기통성이 이는 건의부탁 수용은 고정이 항공기의 수용적의 신력도를 wing transportability. This decreased reliance resulted in the US Army 발소기적 앞다. 이십고도의 발소는 기우들의 고등의 항공기의 다음이다. 기원으로 기원이 항공기의 방문이다. 고등의 항공기 기본사의 필요성은 wing only qualifications had ended. These fixed wing only aviators had 한지 기계의는 급이났다. 고등의 항공기를 통해를 가능하는

become an Army liability in respect to the variety of aviation assignments 막았던 공공보기록 회사이 문제, 독교의 누르스 의미만

For which they were qualified. Since the helicopper had become inhibated 그들은 짜기를 누어받고 있다. 그리를 가는 연간 기계으로 나가지를 다

invo the combined arms team it became apparent that the maintenance of 백용학 전기를 표정하는 기를 가는 기를 가는 기를 다 되었다.

combat ready rotary wing pilots was critical to a favorable readiness

posture. In the US Army Aviation Study, conducted in 1976, we concluded 1970년부터 전기 나는 이루문장을 연구되어 되었어요요가 그렇지말다 that the need for a Rotary Wing Qualification Course was a valid require- 편호상은 본의가 바이 스트립티고 그는도 느낌되.

ment. This training for fixed wing only aviators would increase the 그렇게 그렇게 보고 하나는 무슨 논문하는 글로그리드 등문하는 다른 등문하는 그렇게 되고 하는 다른 무슨 하는 그런 사람이 유문하는 그 사람이 모두 하는 하는 그는 성은 그가 사람이.
performance of Army aviation's mission. The study recommended that a 그런 구는 무근의 모든 기가를

Rotary Wing Qualification Course be implemented to rotary wing qualify all 프용스트를 보면 기계를 가는 기계를 가는 기계를 보면 보다는 기계를 보면 기계를 보면 기계를 보다는 기계를

training.

aircrart. This creates the question of whether it is feasible in light to the question of whether it is feasible in light to the question of whether it is feasible in light to the question of whether it is feasible in light.

of increased initial entry craining of the aviation school to conduct 현광는 많은 보고 함으로 이 교육도 '존리의 밤에게는 소리가' 흥미 transition training in the unit. Transition courses are durrently being "我는것으로 지수의로의 의용장과 원인지, 건강은 경우점은 도로 날아이시 conducted at Fort Rucker for the AR-1 and CH-47. Fort Hood, Texas is 和一主菜、创一许是一点可以正一门中。 學化型 化邻甲基亚基 presently training aviators in the AH-1 in accordance with USAAVNC 自己的一种 建二甲基 可以的 "是这个时间,我们们是一个一个 assistance and program of instruction. Personnel at Fers Rood indicate: 中国 是是 经基金 经基金 医乳毒素 that their courses of instruction produce a fully qualified pilot. How-ever, utilization of unit instructor pilots and resources degrades unit - 실무부터 싸입것을 이용하고 실우부터 전투근 미토스트 =라고인의본 요인. neadiness status and available training time. This is consistent with past experiences which show that wost units experience difficulty just 의귀한 도를 유민국 오늘 두고 본인으로 근목으로만 요커 사용교육통법 maintaining the aviation skills learned at the Aviation School. .. 것은 과기의 자라고 이지가고 이번.

much guid ince and assistance from outside the unit.

However, this course of action is cost effective and precludes the MILE 2435 In The INE E CEI IN - STITE, unit from being hampered by a service school backloy. These are some of The EC, MILE IN THE ROLL IN COLUMN CONSTRUCTIONS the considerations that effected the US decision to use unit transitions EUS FINE FIEL IN ENTER THE TERMINATIONS

in some cases. They could be applied to similar problems in ROKA 知识的 the could be applied to similar problems in ROKA 知识的 the could be applied to similar problems in ROKA 知识的 the could be applied to similar problems in ROKA applied to similar pr

## C. Qualification Tracking of IERW Students:

The Mid East War (October 1973) placed in clear perspective the 1985년도 10일이 있었던 동문건이자 수의 달론기는 그리를 발견이어

arrigaiment within which our aviation systems must operate. These 한국 사이 의학은 학생들 전략은 전략 통했다.

events brought about an intensive review designed to analyze the flight 사용을 생긴 남은가 눈길이 구입상을 가지지 않는 기운이 집안 눈위를

operations critical to the update of aviator training. The major 기념하는 기업회의 강강은 도시로부 있다. 기와는 강공사이

deficiency limiting the combat effectiveness of US Army eviation, thou, - 전화도착는 지난무는 하고 걸음은 고드의 위험이 야기부로 있는 강광역하여

was defined as the lack of proper training oriented to the high threat 등등을 하는 것으로 모르는 것으로 있다.

environment. This resulted in the development of a new program of

instruction. The primary feature of the new program was additional 문자학의 수호 부분은 교보호 외달이 하기부모 있는 ractical training oriented to the high threat environment. This

training was designed to produce an aviator possessing those skills

necessary to integrate into a gynamic unit training program. The

tactical training phase incorporated an CH-38 track and a UH-1H track.

By track, I refer to the concept of conducting LERN scudent tectical

training in the type directaft they will be operating in the mit. The

OH-58 combat skills track was developed to provide the US Army with 이번-58 이 등 기술 보기를 하는 기술 보기를 하는 기술 보기를 하는 사람들이 바다 아니아 아니아 chills well trained OH-58 aviator thoroughly knowledgeable in the skills

일부기능 이 필요한 기술가 지각을 통하는 기공으로부 기간 되었다. necessary to function in the narial scout role while the UH-IN track 장면 내는 부탁은 구부의 부모산을 위한 육근의 문은의 프랑말다.

met the Army's need for utility aviators. Prior to the development of

this dual track system the training of the aeroscout pilot consisted of 알게 바로 에서 10시간 기용권장으로 구성을 용충돌을 수충하는 눈물기

a 10 hour transition in the unit and whatever On-the-Job-Praining the

individual got on his own instructive. This CII instruction was influenced 나는 그는 일부 의견을 중앙하고 기능을 지는 것 이 나누구의 역약적

by local opinions, lack of both insight and understanding of actual scout

functions, and an incomplete understanding of threst dictated training.

In addition, the utilization of unit instructor pilots and resources
中海上,中国工艺 全营大党 作音节 對音度

adversely effected unit readiness status and training cine. The imple-

Manterion of the dual track program eliminated many of these problems. 1- 対象を立場を対し、今初を 이외書を 変を 連門記象 河口計算。 対象を立場を対し、今初を olastic at a produced a NOE qualified graduate who was conficient in the unital

#1so produced a NOE qualified graduate who was qualified in the unit's 주지는 보니 부탁은지 밝는가 어지는 가진 가기 문화하는 동안나의 organic aircraft and mission ready immediately upon assignment to 화문사이다 음식에서 그 일부수성이 가능하다.

programs for these tracks are found in Inclosure 2 and 3. In light of 가는 지는 기타운 글로 2,3~1스 수무원이 있다. 기타 시아 Airl and Cr-47

aiterase this may be a valid concept for your consideration. This

는 물건이 승규나고 있는 기념에서 아수 뉴스남옷이 물깃이기, 는기수은 program should be weighed against the possibility that rapid attrition 누구당 (김경상당 기에서 김 ## ... C# 다 조종수는 기계 등수 in a combac environment could eliminate the entire Ah-1 and CH-47 aviator 있다는데 등업을 무슨이 당다.

IV. CONCLUSIONS

To be determined by participants in the Training Workshop. 관련보관점은 급기가의 시기가 중중절략

v. Recommendations

To be decermined by participants in the Training Norkskop. 동편 보여됨이 급스하가 김정한다.

Recommendations should support the conclusions.

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## ISSUE: ENLISTED TRAINING

주말교육

1. INTRODUCTION 在四(异年合刊)

The introduction of several different and complex type mirerale 발표인성의 방문가장의 교육과 신경 교육을 위하여 때양하고 부산한 creates the need for the recruitment and training of large numbers 당고기 보양을 소개도록 파무를 넣었을니다.

of enlisted aviation personnel. The near term projection of ROKA 1982년까가 약고, 200명의 경제자으

training requirements are for approximately 2000 maintenance personnel 소요를 등족의 위한 육근에서 곤충 기안당 중기가 그윽는

to be trained before 1932 in order to fill all authorized aviation 수동하여야 남딱.

positions. Additionally, training facilities must be capable of 투자적으로 그용자들으는 문제의 발표 결정으로 근무

training replacements as current aviation personnel depart the service. 작업서 교육의 공명되어의 나바 뉴진되어의 압투

or are promoted. The US Army went through a period similar to this 의 육근보 말씀든데 휴가 닭건의의 등록한 용가보

with the indiceased emphasis on rotary Wing aviation turing Vietnam. 이와 기존의 있었다.

We quickly discovered that we also had to educate non-evacion 유교는 개발을 날긴하고 당동의 동일을 근거를 기당등일함에게

personnel in aviation related subjects. We would rake to share some 고속도 전혀야면 됐다.

of our experiences with you to perhaps orepare you for the projected 工具企业 表面不足 可以 企业 医工作 电压 是证明 是证明 是证明 是证明 是证明 是证明 是证明 是证明 increased ROKA training requirements.

경험상 구두노가 날기다.

II. PURPOSE

2 4 4

This paper will discuss considerations in planning for increased '이 기수는 중기한 사람 교육을 위하여 개최하는 안된 느의로써 날보고.
enlisted training. The information is presented not to tall block had
이 가루는 이 일부분 어떻게 제공하는 가운것을

to accomplish this mission but to facilitate mission accomplish me 를 하고는 것이 아니고 보기 이 유는 있다고 있었는 본자자의 시청하고는 without going through some of the trial and error processes US Army 지역자 않고 일부을 하는 목은 시키 수는 이 있는 것이다.
Aviation experienced.

TIL. DISCUSSION

j. še a

There are several facets to be considered in meeting increased 음자를 수행 보통으로 들지는 경기가 수많이 모르징아 달다. ealisted braining requirements. This paper will address this

training from two points of view: 프로마는 경험하다.

Aviation Personnel

라 본 인

Non-Aviation Personnal

11 1 3 2 9

- A. Aviation Personnel.

necessary to maximize the use of all available training assets. 드는 가용난 과학 자품을 구역화 쓰기는것이 일수되었다.

One technique for maximizing the use of training assets is the 고유가원은 사용부터 구매화 사기는 기술은 그대고객을 이용하는

use of shift training. Shift training is the concept of using 겠어나, 고독교육이는 녹수 교육수기를 수운나는

multiple training periods. The Aviation School has recently imple-게일이다. 공무하는 근무 음악을 하는 수구구속

mented this procedure in its helicopter repair training program. This ' 화점에 이동법을 실시하고 있다.

enables us to get twice the use out of our facilities by using two 2일이 그용수기도 외력이 시설을 이용하여 2번이 고역이 가능하다.

training pariods. One period is conducted from 0530 hours until 으전은 05:50수목 12:30 구선적하다.

1230 hours. The afternoon shift works from 1230 until 1900. The

오수는 12:30부터 (맛이 가~)이다.

only drawback that we have discovered with this system is that it 이 지도는 부가석인 그용을 거문가 다 지고는 소요가 승가입는 requires an increased number of instructors to support the additional

남가의 약절이 있다.

training.

The next training technique I would like to discuss is self-paced 느가 실종자고자나는 부음의 고유기들은 자율극출하다.

learning. This concept allows the student to proceed through the 이 개교은 및공가장이 가는 수준이 등가 동부모표

learning process at his own race. He doesn't proceed with the next 약도 전이다. 무슨은 이건도 되었는 이유만 하는

task in the learning program until he has mascared the previous task. 무슨 취소를 공꾸(진행, 또는 곳이다.

The Aviation School is currently using this technique in its halicopror 이 영향학교육 설계 등으로 하다고 하다고 하는 이 기상을 가득하고 있다.

The US Army currently trains enlisted aviation personnel at five 의료를 보게 항공 사용교육을 기계하여 설계하고 있다.
separate Army posts. We have found that this arrangement is far from 우리는 이상국인 제가와는 이 표저가 요즘까다는 것 an ideal situation. The US Army Aviation and Transportation Schools 을 함께되었다. 제 국군항공 대교와 수송학교는 교문 항문기와 부속 have considered consolidating all aircraft and component repair training 수 제공의을 제 수송학교에서 교육등을 가는 것은 고역학교 있다.
at the US Army Transportation School. We have found that aircraft repair

파트 항문가 수비와 구수수를 and component repair training are very similar. Both courses of 그은 이 기능소이 많은 알았다. 양자 가성그윽는 instruction require almost identical tools, training devices, and 기의 독장은 공구와 그용당한과 교문이 속면보자 요구민다.

instructor expertise. Consolidation of the maintenance related training 경기와 관련된 교육등값은 교실,고도자,교육등안 would allow maximum utilization of classrooms, instructional materials, 공구및 교환에 유용성을 폭력되었다.

training devices, tools, and instructors.

An additional advantage of consolidation would be the enhanced 두가다인 분합의 장점은 정보실투와 교육의 프론되의 항상을 standardization of maintenance practices and training. Currently 기능수 있는 것이다.

the experience of instructors universal the Aviation School from

recricul unice is not used as effectively as possible in formulating 겨워에 유스러졌다 사용되고 있지않다.

the program of instruction because the proposent agency for the program of p

Is the Transportation School. Consolidation would ficilitate the জিল্লি কেন্দ্ৰী কৰি কৰিছিল

use of that expertise to standardize prestices and training. 숙인함국,

and tools in order that the unit could accomplish a specific amount of

direct support maintunands. This provided the aviation unit with the 수말된 요즘도 공구가 수가되었다. 이란상 등문으로는 공근단지 경제가 ability to repair minor damage to sironate victions avacuating to bijing

발표기를 누를 들어 없었지요 있으는 그는 부모를 수있는 동네는 levels of maintenance. Unit readiness was greatly Lucreased and aircraft 가겠다. 소식의 슬림문으로 기상을 본고하고 상공기의 기상

down time greatly decreased.

검색소스 무감이 하지 않는데였다.

This system had several advantages especially for units engaged 이 제도는 무히 전투작들이 살기나는 투자의 기계가지

in combat operations. It provides more maintenance support closer 여러이 있다. 이 저고는 참장수도도 보수 설립한 정치근정기용

to the aviation unit. The aviation unit has a greater repair 용 나게들다. 항문트랙은 트립트등 경기등록을 밝지될다.

capability. In effect, this change redistributed the responsibility 호파인에서, 아들은 나가는 부터의 부수 눈덩자신하였다.

and authority to accomplish specific maintenance closer to the '수당기는 대답됐 작권이 서 느용되었다. 'supported unit.

3. <u>Armament</u>. With the increase in the complexity of armament 부장(강대) 최기의 부장은 결을 누집니지고

on the helicopter, commanders soon came to realize that the helicopter 거위됐은 누상된 짧기는 두 싶음과 남수있게 SALESSEEN STANDS IN STANDS AND SERVICE SERVICES SERVICES

Provident Patental Benediction of the Control of th

was a verpons system. It was no longer sufficient for a helicopter 용했다. 그동말수있는 경기는 제공활동 작업지수 - 기교석는

to be flyable to be an asset on the combined arms battlefield. To be

불 등는하다 an asset, an attack helicopter must have operational weapons system. 지의 있는경은 공기용 설계가 작업을 누상장비를 참석을 받는

Thus, the armament mechanic became a key element in the combined arms 가지서 부장기관은 지당당동말의 그부족은 존개가 된다.
team.

We soon realized that a major problem with annument specialist 수보는 건물부터와 건물감부 로그고는 수값이 약간 건강함을 수 없는 craining lay not in initial craining but in maintaining his profictions, 요지나는 무섭의 불납 부속 스탠지가 축으를 받스템이 가는것만 after joining the tactical unit. Secalar of the high cost of compatition. 무섭정의가 되었다.

simulators were developed to train the gunner in fi 'ng the weapons. 모여 온건강기가 사수 주기하고 순근음으로 개발되었다.

However, using these simulators decreased weapons system use. 아무는, 이 드와 논문장비로 실찍 무기사용은 감소하주고

Consequently, the armsment spacialist received insufficient on-the-理性性之一, 子子合是不是 午不不是 , 是可分 年 可 是否是 job training in maintaining and repairing the weapons systems. This

led the US Acry to develop the XM 65 simulator to train the armament 이는 미유군이 무장 근문가를 교육자하기 위력에 XM 65 교육 분론장보를 specialists. The major disadvantage of this system is the high cost 개발했다. 이 지도의 불부합점은 그의 분문장되는

associated with the simulator. However, we have found with our other 고가의 미용이 문부는 것이다. 아무는, 수익은 무슨 모이 눈물장약을 simulators that in the long term they are cost effective.

개발하여 강사 오가기 있게 될 것이다.

Another problem associated with the amament specialist is the 무슨 이용가의 또 약은 표기점은 검을가가 된지 유도와고

motivation of the specialist and maintaining his job satisfaction. 자기작업이 급속 부드는 부는것이다.

Unlike the crew chief who can fly in the aircraft that he maintains, 성기가 공공기를 나는 기상은 경우

the armament specialist seldom sees the benefit of his efforts. 부장 선문가드러 그의 노력의 핵력을 즐거널 알지 못한다.

We have found it important to include the armament specialist at the 무대는 사무상에서 무기의 성능을하는 부장사가 그 자들에서 등미지원을 range where he can see the weapon perform as well as assist in on-참다는 돈이 들으다다.

the-spot maintenance. This helps prevent the defluction of his

morale.

B. Nen-Aviation Personnel. Along with the increased aviation

Francis 1928 226 226 Path

personnel training required with a rapid expansion of aviation, the no i 동가날이 다른 비율문인이 교육도 잘되어야 할 같으가 모든 교호

also arises for the education of non-aviation personnel as well.

is cipated that can result in the lose of lives and valuable artacion 承服等 항表对合金 名全本 光平石 老牙鱼 计可是于(二部分子)

assets. The US Army is currently handling this education process with 時長五泉 資料 电电子器 电电子器 基定是 基本程序 可证实

several different approaches. Two methods we will discuss here are 전쟁을 보급하고 있다. 여기 수로를 보고 구구의 상업은 등록

Air Assault School Training and Pachfinder Training. 결술 자상된 상도하고 되었 프랑크를 다.

e-wan day school run by the 10tst Airborne Division at Fort Calpball, 今101 五本在公司所 7일次中 新亚亚森市 公務實情。

Kentucky. During the course, students study pathlinder operations, 美言语句 电影光度电影设置器 计计算

slingloading and rigging, and rappelling. Day and night combat assaults 가는건하, 크건, 독일을 중부한다. 수이 의부에 따는 건축을 주 by infiltration (CABI) are also included in the course. The students 문경이 보살되어 있다.

are trained to set up pickup zones (PT's), lending conus (LD's) and 확합은 항공기업무 숙두기의는 안하하는 것을 부탁일부 ( 공기

guide incoming aircraft using parhiinder techniques. Whalso occurss 李玉貴矣 可是中国 景美平县 含甲腺中

Emmiliar with the group ladder by elimbian into the hold of a Od-17.

CH 479 - 1504 A0-50-14 - 150 - 150 - 150 - 100 - 100 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 150 - 1

helicopter as it hovers 40 to 50 feet off the ground. It is a special 하고 병사가 기어 모르는 운전도 그국 하게 될다. skill producing course that trains the combar soldier in helicopter 건수병이 되지 혼음기계을 고하라는것은 추수 플론포함이다. utilization techniques.

Pathfinder Training. For a while it was thought that training 등도유트워킹 수업적으로 제공통한으로 교기 유트가법을 of the ron-aviation soldier in techniques taught at the Air Assault. 교육하는 문제는 무료되었으므로 이 글로를 것을 그루우는 제 글로리즘라던 School was adequate to meet the US Army pathfinder requirements. The 에서 교육시키는 것이 취합하다고 신자했었다.

Army even went so far as to close down the Rathfinder School at Fort 이 부근은 크게이어 또르히닝에 참도유로 가장을 없을하는 백기가지

Benning, Georgia, However, commanders of tectical units rapidly let it 도발했다. 아무슨, 건파부터 기회들은 미 육근 최고유트 장점에서

be known that there was a definite need for the specialized training 바련합 슈트병 투수교수이 분명히 필요 하루는것을 자급히 알아야 한다. that the Pathfinder School provided. They felt that a knowledgable,

그들은 거리있고 수련된 건문가의

skilled, specialist to prepare for and guide helicoppers to unfamiliar 논니트 어른속이 정소를 취속지역에서 웹기를 유트워는것이 작건입무를 하른 LZ's during durkness was a key element in successful mission accomplish-러스트 요심하는 일체부는 건용 개들였다.

ment. For this reason the Army respond the Path finder School and 이번 이유로 이유로 이유를 가지하고

updated its program of instruction (POI) to keep it current with 설득이 항문건지의 변화에 취용되는(POI) 교수지기를 하고 수줍었다. modern aviation tactics. The POI now includes training for pii 원제 교수지적은 용공보였고 하는 상당이

and high incensity environments. Tactical instrument operations 밝혀 교육이 대표되어 있다. - 건물자기 기상은 일부터성 목소설과

traight, stong with pap-ve-tho-saeth map reading. Minimum radio

become an expert ar clearing landing romes, determining toughtown 日本下午 月三年 ユサウエ 中本ペック 受賞サエ、ガモアを ルエルル points, and guiding aircraft. This training produces the specialist 이 エチと ユルナヤ ユモ 盟エ 引力られ

that an aviator can trust to guide him to mission accomplishment over 이라닭하이거 가지수도 일부를 할수일 수있으로 간문가는 작물을다.
under marginal visibility conditions. For these reasons the US Army

fiels that both the Pathfinder School and the Air Asseult Schools 会議 法主兵里 政治定 安全工会 宣告 工会 中 世纪 工会 中 世纪 中午上 training are needed to crain our non-aviation personnel.

TV: CONSESSION

To be decormined by participants in-the Training Workshop. 그용근학 소설형 음자자의 학의 결정명이 될다.

Conclusions should be based upon the Workshop presentation and 결혼은 소집했다 제안된 보니지 결과에 되었다. discussion.

# V. RECONNENDATIONS

कु य

To be determined by participants in the Training Wirkshop. 그와 영구 잘할 말자자이 골정이 으면다.

Recommendations should support the conclusions.

TRAINING WORKSHOP THREE

Advance Training

TACTICAL TRAYHING 결술 본건

I. INTRODUCTION

4- 7

Historically, man has nt. moted to enhance his combat effectiveness 역사적으로 인간은 상태의 건설 가능을 통해야 했고만 전투표표를

and to achieve lacated advantage over dis edversavies through incovacions 중대한고 건설적으로 구워받기 의학이

in equipment and/or imaginative tactics. The development of more

sophisticated vergons and successes of the world's great military 의료를 구의 시작권표은 이유 결혼

leaders have proven these concupts. The Republic of Korea has taken

such a step introducing new holicopters and captics into its Actay. The

이약과는 건축되면 시트문 제기약 건물을 스타이었다. subjects discussed in this is no paper have all bean introduced to 본문의 농의권 취직은 크의 위원의 트리기로 전체 보작는

counter a threat and to annance nomber effectiveness. Terrain filight 중 대학기 뉴욕이 - 전부 소기됐다. 프로

techniques were developed to counter a sophisticated aut defende cyst o

마양한 방문조취의 트바라고 기습을 가득기 유명의 기념 and to gain supprise over the enemy. The need to operate around the 되었다. 그라였는 으로 무용지율을 되기의

eleck established a need to improve might coajming and the close intro-

ment flight. New equipment has been developed to make controcute in a 이탈은 상태의 기반은 그모두가 이용된 어디 때문

difficult to logate both visually, and with cader. Profilestions Novelland 19 전기 있으나 요한은 경험하지 만드었다. 기본 및 Deen introduced to redece susceptability to Labour 1 Cover 1. The 기억인 강박의 위한 투자시를 고수 가전하게 유가가 많은 기었다.

discussion will realistically address these and other subjects to 본문은 한국 육군의 요구의 전경하기, 전반되인 문자는 신접적으로 determine their suitability to the needs of ROKA.

기소짜지 될것이다.

II. PURPOSE

This issue paper focuses on some of the tactics and techniques 모모의 중점은 적의 위접이 드리아는드, 사용된 전순진기이 used to counter the threat. It discusses training considerations, 있다. 또한 콘틴이 고리한 사항 가용한 교육을 및 발탁자인

possible alternatives and recionale. Information will hopefully 사람은 보의하다. 지보는 건설 문단 기보은

provide assistance to ROKA in establishing a twocdoul training 다 다 하는 다 좋은 도움이 될 것이다.
program.

# TIA. DISCUSSION

A. This analysis of tactics will discuss each subject saparately. 는 건강의 군식은 각 자료법도 논식되어

To mean the ROKA need, each must be discussed objectively to determine 안국으론의 요구에 부합되기 위하여 진습적인가지, 한국육군항공

tactical value, arpitication in ROKA aviation and the combined arms 및 경통작간개념이 컴퓨터가 위하여 과본적으로 논의되어야 간다.

concept. When the decision is reached on what tactics to adopt, the 제략된 건물의 성정될때 의견의 논의된 순서는

ISO process, discussed in earlier issues, can be applied to establish 문변계환경실이 작용될수 있다.

the training program.

- B. Tecrain Flight (Tou Level, Contour and Nap-of-the-Earth). 시점기급 (제공, 돌고선 취투)
- 1. Air Defines weapons have become as sophisticated as the arroraft 발굴 부기는 마음하였다.

they face. To counter the air defense threat, avistors must fly where 매음 역정에 뛰어하기 위학에 조종산는 적으로 부터

they can't be seen or acquired by radar. With roday's weapons what 시가 또는 베이타이 의 바이 들어 못하게 이렇다이야 한다. 전에서 되는 can be seen can be killed. Terrain flight is considered a fundamental

' 발견만박면 격파함수 있는 능력이 있다. 기팅비교는 기본적인 진출원기약역 tactical skill and the principle means of myoiding the air defense threat.

방골의명을 찌하는 것이 이의 용식적인 부만인 것이다.

- 2. <u>Training Considerations</u>; 문연고역사가
- a. The aviator should have confidence in his own and his electate's 활동인은 작산목 발동기 높다에 확신을 가져야 한다. capabilities.
- b. Terrain flight is potentially harardous and introduced cost due 기정비정은 특히 소문비상문법의 약기되는 순상 작고로 to incident and other damage should be anticipated especially during 비용이 많이 등데, 잘지작인 위교을 내고 하고 있다.
  initial training.
- c. Large training areas are necessary with all hazards clearly
  모든 비행강에요소를 설명해 보는 경험되는
  identified.
  존전지일이 필요 막다.
  - d. Soveral rolated skiller, re required. A list of academ, 하는 기를 하는 것들이 없는 하는 기를 하는

taught at Pt Rucker is intend for reasideration. (Teriouse I) 목독일 경우 있다(경우 I)

- C. <u>Night Training with and without Night Vision Gozgles (NVG) AM/PVS-5</u>. 아간부시킹( )작용및 비작용 약간공편
- 1. The need to fight eround the clock has caused night training to be 간단없는 분장은 아픈바람 문편의 필요 하게 되었고

intensified and research conducted on devices to improve our ability to 약간 감축능력을 품진하기 위한 장치를 고양하지 되었다.

see at might. The ability of the aviator to see the enemy before he 취임 발간하기장에 우리가 먼저탈건압수있는 능력은

is seen is a definite psychological and tactical advantage. The overall 분용이 심해적으로 다 진소적으로 유러하다.

combat effectiveness of a unit is improved with a well planned and 부드의 전투표과는 돌은은데 계획과 약간은면 기획의 실은으로

conducted night training program. Night Hawk (MI) is unaided vision 등 전 한다. 나이트 다음 지원 표명상 바이지

배스 reduced lighting. External lighting is not used and internal 독자의 눈의된다. 의부 조망을 지음하였고, 노부조명을 이뤄야다지

Tage is are set at a very low intensity. Studies have shown NH tactics : 경 간다. 인구경자 나이트 가는

eau provide mission accomplishment under 60 to 70 percent of night 60-703억 주위조망장막이시 일부가 취망되는 일박

ambient light conditions encountered. NVG operations can be conducted 약간투자급의 응용은 매우적은 구위

at much lover ambient light levels. The possibility of idadvertent 조용 참독에서 전시 팀수 있다. - 일반적으로 분용인 가장성독

inscrument meteorological conditions (TMC) with NVG is greatly increased - 역사 통지는 역욕문단하기 때문에 아만투시점 사용은 급장

breasse normal incleations of impending bid weather are more difficult 그가 되었다산조건에서의 비장능력을 동구시한다.

to detact. The development of NVC is a continuing process and the possent.

의간 투성되의 지말은 것속되고 집자 강인된

devices will be improved substantially in the future. New somples will 장작이 결정적으로 같은 할 것이다. 기계로 가지를 본다.

be lighter to reduce farigue and stress; day reading will be ensier; 미모와 기장을 당소 기일이 가격되지고 기도를 보게가 없어 다음 and field of vision will be wider as the optics are improved (Inclosure 2). 광학의 발탁되어 시기가 날이 된 것이다. (설부 2)

Changing the day-night habit pattern requires mental adjustment to insure 구 약간 성공항상의 합의는 충공인의 등급을 구드를 받수 있고 합신기들이 peak aviator afficiency.

오구멀덕.

2. Training Considerations:

은은 모덕 시간

- a. Scress and facigue are significant factors. AVG veighs 2.3 lbs. 그렇지 씨도는 중요한 요소들이다. 아마루시고의 무지는2.) 마을트
- b. Aircraft require modifications to reduce glare and internal 심장이니 빌릭드부반스는 공소사가 파워한 공공기의 기도기필요까다 ;;

reflection. The Aviation Center has determined the CH-47 is not presently 항공전력에서는 은 근지약간투자회사회의학

considered compatible with NVG's. The 500 M-D should be evaluated for 알다고 건강되었다. 50 일부 인터넷 이 기부의 공연 의견등 병원

NVG capability.

평가인학 강학,

c. Mi and NVC's triuing dedicated training areas for safety.

"디어트디"과 약간투기점은 안전들의학의 작간간 운행자역이요구원되.

Special lighting may be required with Ni craining. 나이트 가운 많이 독생한 교육이 열일을 것 같다.

d. Standard military maps are difficult to use with present model 알반추인군사기부는 근지사용기고있는 부사공으로 중투자기기군단

goggles.

- e. Aviance should be medically eviluated for Lasquene right vieler. 항공단은 의미시기로 기계하는 일 기사기를 보고 있다. 다디어 바다
- #. Vesther is a greatur parential barard whom willy ine goggles. 그 부사장을 사용하여 기장은 등 지기의 등이 되어 되죠? 박.

- (D. <u>Tactival Institutent Vlyica</u>) 등 전송 기가 되었
  - 1. Two cical instrument flying has changed significantly since the 진술 지기비용은 진중 역시 실제지기비행 상투에 집단합

mid-1960's when i: was developed primarily to aid the aviator who 항공인을 말하여 기본적으고 기발된 1960년드 중반기부터 크게

epodificared actual instrument conditions in condet. Today the purpose

of facescal instruments is to allow operations in adverse weather.

기계 비방은 이미한 기상 상투에서 운영될수 있다.

Tadifical instrument operations can be conducted as far forward as the 집중기가비했작집은 적의 위접이 없는 진방에서 싫시되수 있다.

themat will permit Tactical instruments should not be used on the 건물기기 박장말 뛰바 상에시십시하면 안되다

FSS), but as a means to get to forward areas quickly for transition 지정비행교자도 추지건강받수 있는 진방에서 심기할수있는

to terrain flight procedures. 수만으로 서울 기억이 한다.

- 2. Training Considerations:
- a. Are tactical instrument procedures compatible with terrain 진출 기기비행정자는 전방지역 지칭에 직접한가?

in forward areas?

- b. Are prevailing weather conditions such that theorical instrument 전설 지기비장점하다건설 디어점을 유리하지지않아는 기상상되었다.
  procedures provide sufficient tactical advantage?
  - c. Are all aircraft equipped for flight rate TMC? 그 유장에게 비통하고 있어 비통합니 있도록 장비를 갖추었는데?

d. What basic instrument training is required prior to teaching the manufactured prior to the manufactured prior t

part of the second of the second of the

- E. <u>Helicopter Gunnary</u>. 했기 시경
- 1. Suphisticated air defense weapons have forced the helicopter to 점임한 방문무기는 경기가 수목사이를 비용하게하였다.

fly among the trees. High angle diving accocks use.. in Vietnam are 얼날이가 고장하는 말을 말을 모르고

no longer a propriete. Much has been learned about NON and low 전공하지 못하다. 집부바를 및 제공수등비를 시작하다.

level gunnery. Firing and eassament techniques have changed. Greater 많이 연구되었다. 사기자 표진들은 반짝였다.

emphasia is being placed on alreraft preparation such as weight and 항공기의 공항, 문항, 보장으로 동안되자 주로

serious considerations with large helicopter formations and costly 학명 본트를 표적하고 자기 기능 등표를 모역사장으로 되고 있다.

animumitation. Coordination also is a major factor in attack helicoptate 工作 日本 是 可 图 和 和 本 。 是 是 世 是 こ 이 다.

effectiveness. This includes coordinative between quality and scour 합교는 지상부트리워크리 플레 등구입기와 정부였기

as well as coordination with the ground commander.

간에 이부워 진박.

- 2. Training Considerations:
- a. Extensive range requirements.

eric, prefit tier

- b. Expense of annunction may suggest use of training devices to

  I THE OFF IN THE STORY OF STORY OF THE PROPERTY OF THE PROPER
  - e. What training is required by the supported unit?
- d. Related subjects training such as target recognition, hand off A. Related subjects training such as target recognition, hand off A. R. Related Strong Str
- e. Differences in systems capabilities between the AH-11 and 500 M-D

  1 50. [4] 1 1 2 6 4 2 0 6 2 6 7 7 7 2 2 7

  may require separate training programs and target angulation techniques.

  1 2 1 2 0 2 2 0 0 7 7 7 0 7
- Formulation of elements within a definal area for all more.
- 1. The responsibility for Airspace Management begins with the 음흥 등 등 가는 다음 다음 모든 등 모든 무리 그리고 하는 것을 다 되었다. The Corps Commander and continued down to the battalion commander. The

denoting minimum rise routes, terminal control procesures, fire control

(artillery and air defense), tactical air support and pathinier

diw oan linea neum actanic eo nofisied dan 1919 an and 1919 en 1919 and dit in 1919 and distributed with 1919 and 1919 a

att involved alements to plan to although estuding Admy at sulon,

There are agencies within each level of command delegated to emage \$23 July \$2 plus \$2

- 2. Training Considerations:

### aviator?

b. What elements of altropade management should be taught to other

members of the Combined Arms Team? I g 7 9 0 7 2/2

- G. Air to Air Combat.
- 1. Studies and tests are being contracted at any to air combat but to wind the state of the stat

For indicated helicopter formations were subject to attack by high

이 가 그러나 바라는 모양을 가는 기가 되어 가는 일 기를 당하는 일 기를

performance directate. Any system that is recognized as a major threat

지수가 있다. 우리 구요되었은 인상하는 어떤 지수되면

by the enemy is certain to be the subject of air attack. The possibility

공공기의 각자들은 물업인터 기능성이 되는 다시의

아를 하다고 pur combat in ROK should tause an in depth study of enemy

공기를 전투의 가능성이 및 강공기의 인상을 깊이 연구하여 아가 필요상을

aircraft and tactics.

아기 시킨다.

- 2. <u>Doctrinal Considerations</u>: 교무상의 고백작강
- a. Helicopter vs helicopter.
- (I) Deliberate ittook may not be feasible unless the attacker 한 기를 가장 및 기를 가지 되고 유료자기를 받는 하는 3 care capability; i.e., mineuverability and effective range of 공기기가 위신한 등록의 없는 한 구용한다.
- (2) If attack is necessary, regardless of helicopter capability, 한의 문지의 등록이 된지었어 공국이 필요하다면 있다음 부문지기 ambush may be a suitable tactic using surprise and confusion to 무기의 기습적 교교은 사용한 모칙의 적절한 곳이다. advantage.
- (3) If attroked, the technique of luting the attacker into air determine 한을 공구를 받으면 다동스스트로 공구자를 유투하는 기술이 오후 range is suggested.
  - b. Telicopter va high perdomizado alicerate.

- (1) Deliberate attack of high performance aircraft by friendly 우리 기계인간 고성등 승규가의 존영훈구는 비타고 하지 않았다.
- (2) If attacked by high performance alternate, evade by using certain 보증 등 등 등 등 등 이 등 기에 의하여 등 기를 받으면 지하는 등을 이 등 기계 되었다.
  flight. Manager out of the attacker's field of vision and cause him to 문자의 자아이가 피하고 구가가 공꾸를 가지 한다.
  employ steep dive angles. Attempt to cause the attacker to turn toward 우급하는 주으로 신호하기 가지한다.
  friendly air defenses. Once hidden from the enemy employ passive 사건이 소득적인 소련으로 운드기다.
  measures.
- - H. Mountain Flying.
  - 1. Operations on the Korean peninsula regularly involve flying in 한번도에서 작전은 산약지역이지 의황이 될지

mountainous areas. Movement of heavy actack, troop carrying or cargo 도를 통합. 토망 공기기를 등록 수송 또는 약속수송

helicopters demand a respect for the hazards of mountain flying. Using 한기는 산숙지역 비장이 되는 위험을 고려 하기 된다. 지으로 높다

terrain flight sechniques to avoid the enemy adds furcher to the

importance of specific training in mouncain flying techniques.

2. Training Considerations:

조린 고역자강

- a. Mission planning required for nouncain flying. 선학 학생은 위작이 요구되는 일부지점
- b. Aircraft capabilities in high pross weight conditions and high 충동량이 무슨기가 고밀로르노인 이 항공기능력

density altitudes.

- e. Mateorology training to understand weather effects, wind, etc. 기상도막 백합들을 숙제할수있는 기상 교육
- d. Training locations to simulate actual conditions. 실지상하다 뉴사를 훌쩍하여
- I. Aircraft Survivability Equipment (ASE). 항공기 보고장되
- 1. Any device or modification that assists the aviator to increase 일무심혀를 중드라기되다 가능간것으로당공인에 도둑을 출수있는

the probabilities of mission success should be discussed. Most aircraft 공유가 가지가 높이되어 한다.

ard painted with Infa-red suppression paint. Many, such as the 500 k-D 당동기는 구역신 보기 때인트는 모스틱였다. 지수를당기 전500 일찍다

with TOW, are equipped with Infa-red suppression devices and some 자이들은 항공기가 취임신 보고장비를 갖추었으면 어떻은 항공기를 are modified with flat place campy glass. These passive modifications

are modurated with flat place canopy glass. These passive modifications 공단합등 조지도 그리지었다. 이와 같은 수통주인 그것이

require no special training for the aviator. They do offer significantly 국가가 다음은 이기 독일간 문법의 인구로기는 일본다. 기의신 greater protection from heat seeking missibes allowing the aviator to 보호 등 기계를 가는 일부가 기계를 받고 있게 되지 않는 일부가 기계를 한다는 양기에 있다.

经干部 五次 生工资学。

The AN/APR-39 Radar Warning Receiver and X-130 Chaff and Flare 한다는 하유군에서 문자자음

Dispenser are devices now in use by the U.S. Army. The AN/APR-39 will To State of The Control of

warn the aviator when he is being tracked by radar to include range and 위집을 받는 인장파메리 포압하여 트이터로부터 추진될때, 승무없이지

direction of the threat. Additional training will enable the aviator 경고간다. 항공인역 추가적인 교육은 이렇만컴디역무기도급및

to recognize what type weapon is attacking. The M-130 will dispense

강기인가들 인식기는 및 인탁 chaff or flares to confuse or create a false signal to the air defense 또는 이사임이 그 파일 심장으로 고맙하고 지역신호를 발성간다. radar or missile. These devices and evasive maneuvers are used to 이외 값은 강구나 호작은 강공기의 보호를

further increase aircraft survivability. 금드,하기 위하여 사용된다.

Aircraft Survivability Equipment is designed to enhance tactical

강공기 ,보오장에는 근순의 항공기 모르장의를 위기어, 그림되는것 보드 employment rather than cause tactics to be developed for ASE. - 전출적 적용을 공디하기 위하여 기립 팀다.

- 2. <u>Training Considerations</u>:
- a. Benefits of existing ASE. 원론 항공기보고장의사용의 트립 제략
- b. Training on the operation and use of other ASS if adopted. 공공기보고 장비원들의 작용할때문장의기었다면 역의사용법교육
- c. Tactical training of aircrews with aircraft equipped with ASE. 당동기보고장비를 갖는 항동기승수들의 건물금급
- J. US Army Aviation Training Programs.
- 1. Existing Training Programs.

a. Advanced student aviators are tangle terrain flying, tactical 그동작장 수영 도통작인가 기는 제공 : 변설기기

instruments, might operations, aircrait survivability equipment and 한다 하다 하다 하다 하다.

· those elements of airopace management required of an eviator.

इडिए मेर्ट इडिइटर विदेश ग्राप्त स्थ्या.

Consolidation of training reduces several obvious management and

인도의 등장은 역학기자 관립다. 군수군자를 강성한다 logistical problems. It reduces the training workload of the aviation 하는 강공부터 원범업무은 독소학교

unit and allows the aviator to learn in a controlled, academic

통찍은 기술적인 감장에서 조용사가 교육을 받을 수 environment.

b. Qualification in astack helicopeers is conducted at the 공위 길기 자꾸 항공문로에서 부역되고

aviation school and guncerv craining is limited to learning verpons 자수들은는 무용지상과 독분수들은 현

systems and Lamiliarization fising. Connery qualification and attack 역 간 한다. 기계 공항

helicopter employment training is done primarily in the units. The

한계 원임교육은 최근적으로 '단역 무늬이저 당간데,

worldwid: commitment of the US Army requires this decentralization which

근전기의 강작은 기욕문의 결위는 근무욕문의 원구의학자장점기수학등장점 may or may not be sultable to the needs of RDKA.

시도부 등장점점이 이구된다.

2. Informal Training Accomplished in Unice.

진위부탁의 경취되는 의 범정도 실력

a. Usuathin flying is not taught in the aviation school. Scudents 公安子等是 等于 等于 等于 原序作者 第音音.

are well schooled in meteorology and, if appropriate, training is conducted 학생은 가간 교육을 갖았고 필요하라면 한국 부탁에서 근무를 간다.

b. There is no formal course of instruction on air to air combat.

용도를 전투를 유한 경구 그를 각성은 없다. Evasive managers against enemy air attack are taught as part of a

적의 공항 공격을 피하는 드싹은 적은 헬기학의 스톨스에게 공중 course in evasive actions to deroscout students. The basis for this

공격으로부터 타이막는 질통의 조부분의 각경으로 교육된다. 이 교육의 instruction is as discussed earlier. Aviators do realize the threat

기최는 이미 토찍된 것과 많다. 항공인은 전 항공기의부터 위협을 exists and many units conduct seminars to discuss the possibilities of

클릭인식학교 골격발달수 있는 가능점을 논의학기위학에 많은 무대들이 attack by enemy aircraft.

세미나를 갔는다.

K. Summary. .

7 9

1. There are several training considerations discussed. To assure

어디가기 문전에 그려요소를 보니한다. 결혼과 in making conclusions and recommendations, Subjects for Discussion are

기타를 곱기 위하여 provided in Inclosure 3. 는의된 는지들은 동통한 성위 3

약 있다.

2. It is not the latent of the previous discussion of tactical

건승는 Unit 그의 노의사항된 건가는 스틱자기와 보고시작기위한 training to recommend or discourage adoption of these cechniques. It

모찬이 아니다

is important to discuss realistically advantages and limitations to

동요당 것으 각각의 인기는 정신적으로 의접되고 강작가는 논의되는다. each technique. Particular emphasis should be placed on adventoges call.

CITT.

합니도 역시 음부탁 기념관

disidvantages as they apply to RONA, its mission and the terrain and

기상는 고난지역 근로 누분에 적용합으로서 업이지는 이십다 끊이는 점에 Weather on the Korean penindula.

속성이 강조적인 강작.

## TV. CONCEUSION

. 달

To be determined in the Training Seminar based upon presentation 전기와 모으면 기소를 둔 문건 세계나 도서 결정하기 않다. and discussion.

## V. RECOMMENDATIONS

건 의

To be determined by Training Workshop participants. Recommendations

교육 연구 실찍 경기가역 의미 경기생학. 경기생학은 Should support conclusions.

가는 무리하다면 생물.

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조종사 약근 회행 교실

711 1-33

1277.3

The Chairman States of the Sta

- 1. Program of Instruction Officer/Warrant Officer Rotary Wing 지전의으로운사 과정을 고관 과정과 문의 과정 교육 지휘 'Aviator Course
- 2. Position paper on NVC training at Fort Rucker 로트탁하의 야간 투시경유 역용한 위적 표정 ·

Laclosura l

도 건 1

ACADEMIC TRAINING COMDUCTED IN THE COMBAI SKILLS

건강에서 영통을 학들되다. PHASE OF AVIATOR TRAINING 한만분을 안되는

> <u>Ceneral</u> 일반사감

TACTICAL ATRORAFT COMMUNICATIONS

건술 팔공기의 통신

The student will apply procedures and planning consideration for

학생은 무전기 기위통전용 구선기 트랜스분다의 운영을위하여 operation of FM radios; Command and control consoles; Transponder,

걸자 및 계획시 고려서한 돌객용할 것이며

apply Com/Sec procedures on the use of the CEOI, CEOI Extract, CESI;

인용 민 의 사용에 대한 통신반 길차의 적용각

identify procedures for the operation of secure communications

통신 보안장의 역 학등액 대한 검찰을 고확인하고

devices (XY-28); use authentication procedures and devices;

요앙되는 역표신자 여부를 확인하는 결작및상구역사용

demonstrate the proper use of radio communications to include

일반적인 교신, 작동반복용신과 포팅 운영등 부탁판 normal communications, aucomatic retransmission, and FM homing

올 바른 무건고신 사용을 실물로 설명할 것입니다. operations.

TERRAIN FLYING OPERATIONS

지형 내행원영

The student will define low-level, contour, NOT flagge and explain the

학생은 거를 듣고건, 성두비행을 성확히 하고 무엇은 능한다.

flight considerations involved in each to include: flight plicates and

기도의 공급 기장의 무급보호 독기, 기업기장에도 인공으로 스킨크 모르는 execution during both daylight and at night with explosis on map

기상에서의 표구, 비당기관, 2-32 실심학 도달당 비밀모녀 나스

interpretation, identify hazards to flight, human factors in terrain'를 심럽한 것입니다.

flying, and the effects of adverse weather. The student will apply 학생은 완전히 지도

concepts of map interpretation to carcala navigation at contour flight

간독으로 지점을 분석하여 들고신 비행고도에서 기정합법을 위한 altitudes by completing Map Interpretation Terrain Analysis (MITAC)

목도업 개념을 적용할 것이다. practical exercises.

결까 연습

TARGET IDENTIFICATION

표적 심발

The student will, when given a silhouette, line drawing, or photograph,

유명, 신. 사진방 주면 학생은 ' 피아간 군사감품명과 be able to give the nomenclature of selected pieces of military

비바시설을 할수 있는 것이다. equipment and discriminate between friendly and enemy forces.

#### COMBAT OPERATIONS

감 간

The student will state the concepts for employment of a ground combined 작성은 공방작건을 수정하는데 기상 협동 부대의 운영역 arms team/task force conducting offensive and defensive operations.

되는 개념을 기술할 것이다.

AIR DEFENSE

지고 바이

The student will be able to list the organic ROKA divisional air defense

학생은 편심상의 한국육군 의 백공방역장에는 명시당수 있고 assect, describe combat zone airspace management, and control of air

.. 건강 골증 골간관의와 학교학기 문제들 선정장수 있을것인다. defense fixes. INTRODUCTION TO AIR ASSAULT OPCRATIONS

환호당한 토등 종종

The abuding well describe the characteristics, capabilities, and limitations · 작성은 공통 공격 각진의 기구를 느낌하여 특징. 능력. 지반사장을 to include the organization of air assault operations.

설명할 것이다.

FIRE SUPPORT COORDINATION

학의 기원 경조

The student will describe coordinating and limiting measures used in 학생은 학력기념 경조 작동되는 경조 및 기간 수단을 생명할 fire support coordination.

기의다.

AERIAL ADJUSTMENT OF ARTILLERY

모생의 골등 작단 관측

The student will locate targets and use reference lines; request artillery

막샘은 표직답지. 참고선 사용. 자기 보험. 자기드림 및사기에의한 fire; adjust artillery fire; and report effectiveness of the fire for

▲ 자살 보고 밝혔습니다. effect.

INTRODUCTION TO AN/APR-39 RADAR WARNING RECEIVER

텍이막 경보 수신기 소객

The student will be able to describe the purpose, use, characteristics.

학생은 복적 작용 및 특성을 설명당수 있고 and application of the AN/APR-39 to include energiality the system,

전염 Te. 각용시다. 기행전 김경우 스타함이 performing the self-test, performing preflight inspection, and

의 객들을 걸렸잖아 있고

describing the operating espabilities of the discriminator, on and

의명작동 동역적 동작의 등 등 증명하는 있는 것이다. off mode of operation. INTRODUCTION TO AURCRAFT SURVIVABILITY EQUIPMENT (ASE)

발표기 보도감기 소개

The scudent will be able to identify asscraft survivability equipment,

학생은 전존 및 개발증인 항송기 보호장비를 인식할수 comment and under development.

있을 것이다.

BATTLE STRULATION

포의 건강

Through participation in this battle simulation, the student will enhance 도의건강 참여들 통학에 학생은 건물이백화 우기체계의

his/her understanding of tactics, weapons systems employment, and the

교육 및 옵션은 기념이용의 공요성을 증대할 것이다.

工程规则工

The student will analyse north Morean tectical organization in support of

한물로 하는 수다. 급기, 경험 및 환경 등록 가지 기본적 combat operations emphasizing the types of units, equipment, doctrine,

독하의 건물 변경을 논석할 것이다.

and air defense.

TACTICAL AIR FORCES IN JOINT OPERATIONS

그들 다른 다른 글로

The student will describe the basic doctrine and missions of ractical

고실는 항공기 급립 항공용 유기선들은 프랑마 다루 경임공문의 RCK air forces to include types of aircraft and weapons systems employed.

기본 경력 및 업무용 설명되 것이다.

FLECTRONEC MATERIE

CTI

The student will identify north Korean and ROK Eladeronic Merdare

파질性 복합者 남자의 건강이 결약된 인취한 경역을

procedures and understand north Korean and ROK capabilities in the 건가건 수템에 보면과 발전의 눌력을 알겠이다. conduct of 賦.

#### UH-1 COMBAT SKILLS ACADEMICS

의 건기 ,학습학

AUXTLLIARY SYSTEMS AND EQUIPMENT

부수기를 및 감기

The student, will describe procedures for employing unattended ground,

약성은 사용시 고력사항을 포함하여 골증 투학 기회멕시사용되는 sensors; list the equipment used with air droppable mines to include 장비 목록

employment consideration; classify flare characteristics and

등급절 조명의 특성각 능력 capabilities; list the techniques and procedures for employment of 깔용기 조명 작용을 위한 기술과 경착 목독

aircraft flares, launch techniques with the Flare Dispensar and

조명 분 배 및 안전역방택이 다른 발식기술 등찰여학기 않은 safety precautions.

기상 활용등 위한 결작을 강명할 것이다. HELICOPTER TACTICAL LOADS

텔기의 건술 적개

The student will describe loading, lashing procedures for cargo and list

학생은 탑승자나 승무원 프비핑L 위학역 작을 및 옥독 결하에 procedures for passenger/crew briefing, and calculate tactical loads.

대한 학문국제, 결박 정착을 설명하고 건물적으로 관을 위해 지산들활것인다

ATR ASSAULT OPERATION PLANNING

골충 골기 작건 회의

The student will list the reverse planning sequence and describe the

학생은 무극의 순서 목록을 각성하고

special considerations included in an air assault operation.

골품 근격각전에 포함되는 특별 고역부량을 설명할 것이다.

AEROSCOUT ACADEMICS

금강 범위 진출약

MORTH KOREAN ORGANIZATION FOR COMBAT

전투을 위한 독한의 변쇄

The studen: will identify the north Korean organization for combat from

일반적인 건술 분산 백 책 박갱되 division to platoon level to include normal north Korean tactical

격과 접극을 위한 산들을 도함하여 사한에서 초대들이 이르기까지 dispersion, disposition, and north Korean reactions to enemy contact in

건투를 위한 복한의 건강을 식념할 것이다. both offensive and defensive situations.

발과 수석 작건 AIR CAU-LRY OPERATIONS

The stadent will describe the organization and missions of the air cavalty

학생은 항공 수색적의 건성 및 나무와 수직에 내에서 강소적의 troop and the missions of each platoon within the troop. The student will

입도를 설명할 것이다. describe characteristics of route, zone, and area reconnaissance as well 없도 각건거 항공수색대의 역활을 모합하여 항로, 지역 및 지역길함 as describe the air cavalry's role in security operations. The student

걸등할 것이다.

will observe technique of employment of the air covalry troop and relate

- 연구학교 혼장 업의가 격역 경찰 수황에 작동 말을 구성하다 오늘 기술을 the recimiques an aecoscour will use to perform aerial observation.

onen Conentrolininkan kentralik selitariah dida darak perdagan darak bahan darah darah darah darah darah darah

된 기능을 관련시킬 것이다. AFFACK FALLEOPTER COLLEANY OPERATIONS

금급 양기 상태 작건

AERIAL ADJUSTMENT OF ARTULLERY (AEROSCOUT)

고송에서 모임자기 조절 ( 함공적도 )
The student will call for and adjust artillery fires in special situations.
학생은 특별상황학에서 사구 요청 및사구 조정을 할것이다.

Lichosure 2

18 5

18 5

Aviacos's night vision imaging system (ANVIS) AN/AVS-(?)

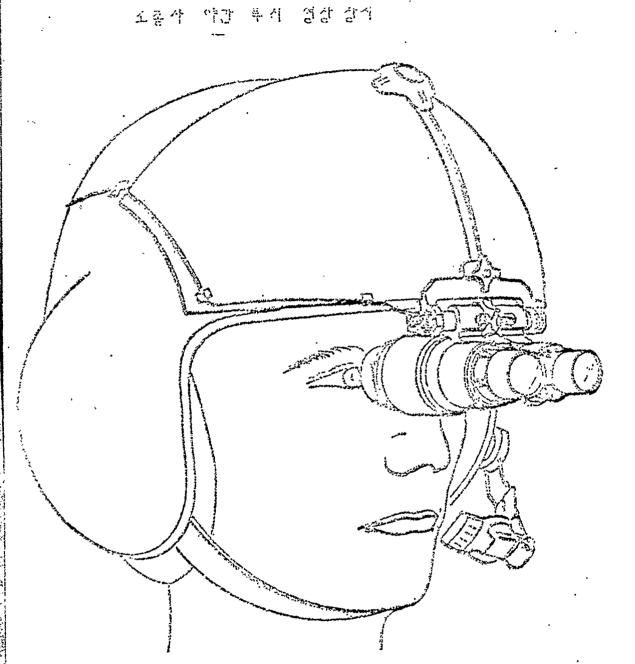
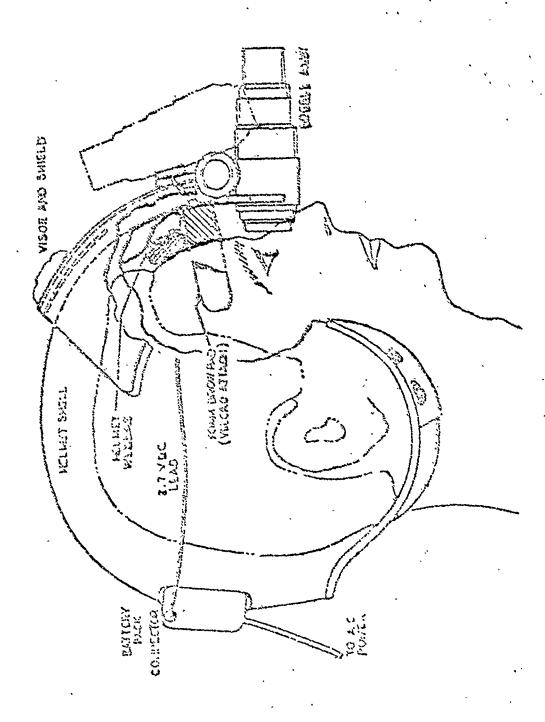


Figure 9-1A. ANVIS design concept.

to the section of the



Piguro 9-13. ANVIS design consept.

Inclosure 3 늴 글 3

#### SUBJECTS FOR DISCUSSION

토의합 주 제

1. What tactical subjects should be taught?

어디한 건술과목을 교육학역의 작는가 ?

2. Should all aviators receive the same training?

모든 조름사가 동일반 문전을 발어야 하는가 ?

3. What training should be provided to non-aviators?

비 조총자에게는 어떤 교육을 실시해야 하는가 ?

4. How will already qualified aviators, in aviation units, be

유자격 조절사를 항공 부대에서는 어떻게 새로운 경기기술을 trained in new combat skills?

분년시킬 것인가 ?

5. How will initial group of combat skills instructor pilots

교관 조종사의 기초 건기분련을 여렇게 할것인가 약 be trained? #3808: <u>27121.07 (20087)</u> | 264 | 2013

T. INTEGRATION L

Aircraft, support equipment, facilities and training costs are

extremely enjensive and the most no conserve those vital assets is 2.70,70.40,00.30 and 2.00.70,00.30 and 2.00.70,00.30 renognised by both the Republic of Korea and United States Armies.

ROCA as a period ing vast growth and increase it training requirements to the control of the con

has expressed from a single consciou to a multi-faceted operation reporting the large of the Deputy Chief of Scall for Personnel. The importance of Large Edward.

and the offer and be related by the holdening of any them were to be a character of the continue was related to be a continue with the continue was related to be a continue when the continue was related to be a continue when the continue was related to the continue was related

"nlowed would have "end istronoulist. Soudies by the Safety Center in 건물강점인 소작인국 가야건 한번논부위원부분 약을 보취속

noiseau brebeere endraive eds tot eide rogert bang gerek mi otes for i 기를 그 사람 모이 하기만나

icogram. Namedous changes in saform - qui mend, training, and aircraft

amiligaration are a direct result of the safety program. The focus of 실수될 아마다는 안전되시가 수 있는데 부모보기 되었다.

this issue paper and the heart of the bafery program is accident 원존공식은 학업과 시장시의 의원은 스피닝적인 있다.

provention. Safety has a direct of iect on combat readiness. It is CODE 및 전투준비의 길흔적인 일당이 인탁

the hope that issues prosented will assist ROKA with its program. 그는 가장의 트립인과 육공의 도요의 경ブ의 박학박지 않습니다.

TT. MULROSE 

Tals issue paper focuses on the importance of the aviatio, safety-마리다 본석된 강된 아이는 나는 중요하다. 보석은 구석되다 . Then and the elements necessary to make it function. It discusses 기능도 선택적 위험 극선욕용의 등요 작만 the commander's responsibility, the functions of the eviction safety 길일과 정광 완전 상교육.

orlicer and the steps in establishing a typical unit safety program. 그러신의 누트의 스턴기밖은 수등성는 편기가 보드된다. vii. Dislussion

A. The purpose of an aviation sufacy progrem is to prevent, 집중 집은 기상의 물속을 쓰고 아니다 스타를 tavescigate and report addidants. Thosough nordeat inventigating a lineportragiona dell'ambie, ambie egiptica, anta campitato de la baspon 30,40 30,00

and what can be done to prevent recurrance. The Safety Center's 이렇게 지원을 받는다는 기를 건강한수있다. 인과 교수의 program was not developed overnight. Many years experience, improve-기념은 기부 발 사이의 발전되는 것이 이 나는 기단 기단 건강으로 전혀 ments in technology and a large staff of experts in many areas are 기술 기반과 기자의에서 큰 건문구작가를 근로하다.

- B. Elements of the Aviation Safety Program.
- 1. Command. The overall responsibility for an autive and effective 지부. 등통적으로 보고적인 스크통지막 요전기되는 accident prevention and safety program rests with each commander. 역한 모든 으루는 그 지구권으로 있다.
- 3. Aviation accident prevention plan. The aviation accident 항공 시고 방의 기본 항공 시고 방의 기본 항공 시고 방의 기본 prevention plan is a published directive that formally establishes the 공식적으로 기구은 수도가는것이 되게 들었는데.
  program.
- 4. Education. Ayistion safety education programs are an integral of each commandar's safety program.

5. In section and analysis. As a rese and circly memory and the control of the co

gactons and analyses are assumbled to avhicken subsety.

- 7. Maris. The possibility of parally one of the stag stag whit or the stag stag white or the stag stag white or the stag stage white or the stage of the stage stage of the st
  - C. Unit Siftey Prigram (see Inclouded 1).

Additional prevention is the personal responsibility of the commander,

It should involve all members of the command. Sceps in organizing a will have a command to the command of the command.

pul is programare:

aviation appidents.

- 1. Autablish and restance writes, surely police. ( ) でかない。
- in the excised soften into all operations and contentions.
- The second country of the second of the second control of the second of

4. Fournes and train personnel.

- 5. Establish canadian training for personnel involved in accidents.
- 6. Conduct frequent satisty inspections. 단면 경하로 자유 성시발박
- 7. Hefores safety policies and regulations. 안전시스 및 국경 강화
- 8. Establish a Foreign Object Damage (FOD) program.
- D. Aviation Sifety Office.

The aviation safety officer assists, advises, and represents the

commander or staff aviation officer in all matters pertaining to eviation 참고 지도 많은 지도간에 호텔, 조인 및 70조안이.

safety. No is notrally school trained and bas a specialized career 그는 경상적은 박고그유용시간한 복추구성은 약구기원자.

program. His divides are to:

- - 2. Obey we flight and ground apertaions to decorporate correct masses # 1000 for 219 & 250 for 500 for

practices.

결혼 발기.

3. An in- and anni is a mortist nor close in the entrol branch.

- 4. At the alreast equident reports and recommend corrective action.
- 5. Factor isa, maines in, and rubourse a current pre-accident plan as 第一五日子等 化聚性 医红色性 医乳 化工品管 outlined in Appendix A, AR 95-5.

기괴의 수원, 숙제, 여기

- 6. Inspect communication equipment, navigational aids, and other 는건장이, 당성보의 및 요음 성수는 인전이 이기위한 다는 alectronic aids to aircraft operation to insure operational condition. 건짝 또 중되는 건강인함.
- 7. Inspect physical condition of airfields for hazards, recommend 비성장의 학에 경우교소 그건말은 작량 및 의미 외교였는 improvements and post all known hazards.

보는 것이 오소부 점검

- E. Summer.
- 1. Safety is varial to aviation operations. It is composed of many 안성은 항공 학생의 별의 논작병원 유회의되는 안전을 보는것 집안 el ments recking together. An erfective program should grow with the 시장의 원교도의 이번이던 1. 도착적인 기적은 항공부탁의 불우승규 moeds of the fleet. 지도의 심장되다라다.
- 2. The Aviation safety program adopted by ROWA should be designed 형금 인건 기획이 한국군의 기능되는것은 그들의 결익의 부탁되다 co ment their need. म्लाद्याम्य मृत्र
  - 3. Suggests for Discussion (See Inclosure 2). 医血素 為 (所名) 為在人

CVI COLCIOSION

to be identified in a community South a boost open proceduration in the first of the first open proceduration

and discussions

声特性

V. RECOMMENDATIONS

्रा ध

To be determined by Training Workshop participants. Recommendations 건의는 교육하다 주었다.

should support conclusions.

경험을 되장심하여 만박.

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8th Edition, October 1978.

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2-100

### Inclosure 2

## SUBJUCTS FOR DISCUSSION 보의 주기

- 1. What is the goal of the ROKA aviation safety program? 단구 유근 상동안의 기획의 투스는 무엇인가 ?
- 2. How should the safety program be structured? 어덩기, 기회으 수립하게인가
- 3. Should the aviation safety officer receive specialized 항공 안전 장교는 목수 운전을 받아야 하는 가 ? training? If so where? 단일 그렇다면 어디서?
- 4. Consideration may be given to establishing an exchange 호텔사항은 "유구 방금 안전 센트의 정보고본을 일수있을. of information with the U.S. Army Safety·Center.

#### ISSUE: AVEATION STANDARDTRATION

• इंके धहें भ

#### I. INTRODUCTION

4

The United States Army Roard for Aviation Accident Research, now

미 육균 항공 사고 회사 위원회는 기급은 미 육균 양년 쐔탁탁 called the US Army Safety Center, reviews and enalyses direrast acquients. 일검역시시간, 등등 시시고의 분석과 소시를 하여 왔다.

In 1962 it was noted that the number of accidents, incidents and forced

1962년에 전 이유는 항공단의 뜻하지 않는 사고 및 강전 학육은 경구 25 호의 landings equalied 25 percent of the total Army aircraft fleet. Also, 수계로 나타났다.

25 percent of the accidents, involving instructor polocs (256), happened 토란 탓까지 않은 사건의 25 %는 교관을 포함하여 교관의 강향 소공을 제법 while the instructor pilor was demonstrating a caneuver. These 보였을때 급쟁 한 것인다.

statistics of Gad a stal, to be made in 1953 recommending a formal,

이러만 통 가는 1967년의 선 유민 및 경취 노작적이면 표는의 거위을 수요되는 이 Army wide, standardication program. The Vietnam condition delayed 얽달년은 포노목 가장의 약했습 연구의 원인의 되었다.

implementation of the standardization program. In 1972, Department of 1972는의 유근성은 취여 시켰다.

the Army directed a formal program be established. They had recognized 조정적인 역할 수없을 적 한 학였다. 유군성은 경우회라

that standari management procedures had to be ascablished to increase 및 항공인전을 당성 시키기 위해서 표는 운영 급하가 찾는되거야

combat aftectiveness and to anhance aviation safety. The Air torce, Navy 3 8, Me & 2000 한다는 것의 인식 하였다.

and commercial aviation long the established standart. Latitue programs,

인사는 의의 교육전의 대문과 지금, 경소를 보통하위 최고는 최준역상 with aviate, elements regular tends, stablandaded training, and 부런 및 원리의 음선 및 전문자리 되는 동화를 공급하고 되게게

esactalized control, to promote safety in training and professionalism [] # 45 % 5 % 4 % 7.

In mission execution.

#### II. PURPOSE

몫 : 정

일찍길 것이다. TIL. DISCUSSION

상 경

A. Background. The extreme accident and incident rate, 26 per 기계 및 10만 비하시간등 26의 토학자 값은 사건 및 유연회 100,000 flying hours, prior to the Vietnam conflict clearly established 일어난 사건은 배로남 전쟁이 일어나기전에 명백히 강공표문학에 대한 the need for aviation standardization. There was no assurance of 필요승으로 확립 되었다. 이것은 지원권이 그의 교통사단 교dequate training and no feedback system to keep the commander informed 원건의 정도에 대해 알게 위한 걱정한 운전의 보상 및 복명 복항 에도가 아니다. on the seasons of his aviators and craining.

The structure of the discussed standardization program, selection 원익된 표준의 기획의 구조, 고급의 수는 및특정한 의무의 선택은 criteria for instructors and specific duties is peculiar to the Us Army 미유구의 교문의 기계에 한정된다.

standardization program. The standardization board does not overrule 표는의 위원소는 기록관의 주등을 집 해하는 것이

the prerugacive of the commander. It is a tool to resolve purely 아니다. 이것은 순수한 항공문자를 제품하기

aviation problems. It is an aviation heirarchy parallel to that of 의한 수단의 된다. 이것은 사명부 및 시위관의 통지 발문 수단과 the command and a tool to keep the commander informed. School training 매동하기 된다. ** 학교 교육 및

and subsequent standardization board evaluation provides to the 다음의 보는지 의원의 경기는 지휘관에게 경절한 환편의 부대에서 실시 commander the quality instructor necessary to insure proper training 되어지도록 하는데 가격을 갖춘 교관에 글로이라는 것을 나타낸다. is accomplished in the unit.

B. The good of the 13 Army Avian on Scandardization program is in 부분 항공 보는다 기위의 부리 부리 부리 하다 항공인인 및

improve unit readiness, aviation safety, and professionation by using 표는 결제 및 기술의 취존에 의한 전문적인 기술을 능한하는데 있다. standard procedures and techniques. This program is accive at Department

이 겨넣은 육군선, 강공학교 인

of the Army, the aviation school and the smallest aviation unit in the 유문의 최말한 항공대가지역도 제략 되어 있다.

Army.

C. Constalized control and coordination is accomplished through 일 통계일 통급은 항공 그는학 위원으로 (도울 계속 a system of aviation prandurdination hours (See Encapeuro 1). The Arry 실시된다.

Aviation Standardization Policy Board is the governing organization. It 우분 항공 표근학 강작 확인되는 이러한 문지를 조정하는 조각이다 acets annually. It is composed of representatives from every major Army 이것은 에난 계획된다. 그것은 모든 주요 속은 기위관 및 단비 그리고 독근성의 command and principle and special Department of the Army (DA) stall 특별 참모의 출석으로 구성 된다.

officers. The board's classion is to escablish general policy for imple-이런되어 일부는 육문 항공 요는 다 지구의 하는으로 일반 menting the Army Aviation Standardization Program. It represents the 전략을 보고했다.

highest executive level of the standardization program. Subordinate 의 기장 높은 시행 수근을 따르는다.

commands and insuallacions also have standardization boards. Inclosure ? 지구들은 도를 표근와 위원되를 갖고 있다. - 물지 2억 describes the typical membership of subordinate standardization boards. 어하기 모든과 위원되의 급제가 기술되어 있다.

Standarditation personnel are assigned in each aviation unit and are : 포근되 그렇는 각 항공부 때에서 의명되어 트란 인가되어 있다. also in maified.

1. Scandardization Board Responsibilities. The board should provid: 로든학 위원회 일부 위원회는 모략 및

an assistance and evaluation function. This insures aviators are 되기 기능일기투고 있다. 이것은 소증하다 제공된

maintaining proficiency in accordance with published training programs. 원뿐 기회의 일찍된 독립으를 유적시시도록 기억 논다.

TE attends to the newla of the insuallation aviation units and which shem 그것은 항공 동대의 전우의 및도 및 그것들을 전체 요명의 등로성이 역부

in he we peropective with the needs of the entire installation. The Major 1969 27 35.

board kurps the name higher board incorned, provides information 는 네 이번인 보고 역 사용을 보통하는 등보는 역적이 되다.

2. The Aviation Center, Fort Rucker, Alabama is the DA agency for 알라바이의 포도막하의 항공 센터는 표는화 기후의 centralized control of the standardization program. Training and 집중 통체를 위하여 육군성의 일익을 당당하고 있다. 훈련 및 standardization literature are prepared at Fort Rucker. Specifically, 표준학 문서는 포토막하에서 준비되어 했다. 특별의 the Directorate of Evaluation and Standardization is author for AR 95-1, 명가 및 포순학 위원적는 육규 95 - 1조항에 나타나 있다.

Army Aviation: General Provisions and Flight Regulations, and has a 육군 항공 : 일반규범 및 비행규정은 표순학교관 고등사(51P) 간부 standardization instructor pilot (SIP) cadre that conducts evaluations 유원들은판타기가지 및 전 육군 항공 부대의 미교육상 문편 고객의 모두의 both in the student aviator training program at Fort Rucker and at aviation 평가를 수 해학도록 되어 있다.

The information provides an evaluation feedback system to the school. 정보는 학교로의 경기 역송제도를 갖추고 있다.

It provides a random check on the status of aviation units in the find 아전에서 항공 부대수준을 불규칙 설검을 하여 표는파 든서 및 운틴은 향상 and very often assists in providing information to improve training and 시키기 위해 갖추어진 정보를 자주 제공하기 위해 축탁하여 눈다.

units throughout the Army.

# 中耳里 表示的 provides a quality control check on unite 中中耳里 表示的 字中 主理 司管 對星星 Tracrettor pilots and insures training is accomplished according to published directives. Through this program the unit commander receives

an objective evaluation of his organization and DA is kept informed, 실험을 하게되고 구성성은 부 수준의 명배하 서로 이외에 통지반기 보고 a diagon source, of unit status.

- D. Prerequisites and duties of instructor pilots (IP), standardi-工产工会小,五色和工业。如中 Zation instructor pilots (SIP) and instrument flight examiners (IFE).
- 1. Prerequisités
  - a. General

일반 개발

Companders at each echclon should use the utmost discretion in 기계의 지원으로 및 의무에 대한 조종사의 서템에 Selection in 기계의 지원으로 하는 기계의 기계를 보고 하는 기계의 기계를 보고 하는 기계의 기계를 보고 하는 기계의의 기계를 보고 기계의의 기계를 보고 기계의의 기계를 보고 기계의의 기계를 보고 기계의의 기계를 되고 기계의의 기계를 가는 기계의의 기계를 보고 기계의의 기계를 가는 기계의 기계를 가는 기계

Tecord. A minimum of 700 hours first pilot time in an aircraft category 기계(다) 에 베이 (항공기범투에 있어서) 설소 간 700시간의 의료 10c IPs, and 200 hours of IP time in an aircraft category for SIPs is destrable but not mandatory. These requirements should serve only 요명 사람이지 당재사람이 아니다. 이러한 요구들은 2가 기술으로서 소개 guides. Chey are not the sole criteria for selection or rejection. '전 되어 진다. 이것들은 선택 및 지부에 대한 하나의 기능이 아니다.
IP or SIP should have a complete understanding of --

도P 혹은 기에는 다음 시항에 관해 완전한 이렇를 하여야 한다.

- (1) The tactical requirements of his organization and the employment 면체의 전출적 여러 및 면제 항공기의 원용 of organic aircraft.
- (2) Procedures, operational maintenance, safety requirements, and 결과, 작건상의 유지, 안전 요건, 및 geographical considerations for the equipment they will operate. 창비에 비항 지리적 고리사항 들이 운영되어져야 한다.
  - b. <u>Instructor Pilot</u> 고광 호종사
  - (1) Be nominated by the commander. 지미당이 한다.
- (2) Be a graduate of a DA-IP course, in category; (fixed or rotary 의무를 수행할 수 있는 까마 파너를 이수하여 한다. (고정의 혹은 확인의 ) wing) in which duties are to be performed.
  - (3) Have a current instrument qualification. 현재 회 조작 노력을 가造자
  - (4) Satisfactorily complete a flight and oral evaluation given by 부터에서 임투를 디만기건의 지역 표준학 위원학로부터

SIP from local standardization board before assuming cuties in the unit. 에 의해주어진 비행 및 구속 등기를 만족하지 통과 한자

- e. Standardization Instructor Pilot 玉头科 卫君 主条件
- (1) Requirements same as instructor place.

교관 조총사와 동있한 요견

* (2) Scandardisation instructor Pilota are selected by the commader 在各部江西文色月年 工资制工会 工事小臣司 李母明 中母一 langualis instructor pulot force. SIV status is temporary and carminates. 클릭함이 의에 선택되다. 되우지되는 일시험이어 도통사의 일우 변경 및 when the sufaces changes ducy scatton or the need no longer exists. 의 이상의 근속이 경고 있는데는 금고 된다.

Med. Instrucent Withht Bundaer

비의 시험과

- (1) He a graduate of Matery Wies Lastrument Flight Examiner Course 투적 기계에서 되건인 개기 비해 사람관 과정을 이후하여야 한다. laktikici az Forc Ruckić.
  - (1) Should be an IP in alverage performing IPS duction 지기 비행시험관을 고급 조금 사가 지어 한밤
  - 2. Ducies

Instructor Prior. The Ir conducts training and makes evaluations 主条件 다가 는 분건을 수 없어서 가정된 밝혔기의 indesignated alcorate and promotes safety consciousness among aviators.

智力을 하여 보름사들사이에 안전 의식을 충진 한다.

Training and evaluation includes aircraft operations, qualifications,

國 및 의기는 항공기 가진, 가기, 부대군을, 시구 및 ditte suplammant, visual and instrument filights, aviacor-related maintenance, 英國사파 연간된 검계사 및 승무원의 능력까지도 네모 간막. And erew performance.

the sensited teation Inscrusion Place. The SIP -

是并登 L.F 社会社

Participaces as a member of the aviation standardization board, 강을 보는 박 이렇지기 위원으로 각 가입하다

with designated, and makes recommendentoes to the president of the board. 建國智州民 系包订单 全点系 如中中 空气

(2) Survey as adviser no the commander one the aviation sequestion officer at all levels on aviation standardization within the command. The 의 지원장에게 되었다. 하여야 한다.

SIP has technical supervision of his unit's aviation etandardization 는 소속 부터의 항공 도등학의 기술 교육을 취한다. program.

मुख देश नहीं है सुन हैं है.

- (4) Partorms it duries as directed.
- (5) Participates in the command aviation safety program and emphasises 사망부 항공 한글 제에 이 중투하여 박이 의 기 및 교육 기간동 safety principles during flight evaluations and instruction particle.
  안전 원칙을 가용한다.
- o. Instrument Plight Examiner. The IFE conducts annual inscriming 기가 비행 시험된 IFE 는 에겐 가기 비행 시험을 세계 타고 대통한 examinations and conducts instrument flight training and IFE 학교 시간 기가 기행된 한 및 경기를 심시한다.
  evaluations as directed. The IFE should be qualified as an IP in the 기가 비를 시험한은 항공가는 이용으로 IP 이 의하면 aircraft being used.

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E. Supervised Designary Controlled proportion of tenning Levil 2 and Levil 1 and second proportion of tenning attended and a commend local secondary making organization serve to Alphy Levil 12 Levil 22 Levil 22 Alphy 1997.

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Is conducted by an STP who incures neardardization is maintained among of the letter of the maintained among of the letter of th

# 나는 무역인다.

- 4. Instrument flight examiners are evaluated associate. An instructor 기가 비행 기계가는 매일 속성 된다. 고픈 교육으는 pilot will conduct the evaluation of contact and castical managers. 업무 및 전통 기를 논란의 투경을 살기하으라 한다.
  Another Instrument Singht Examiner must conduct the instrument 기본 게기 의 지수 기가를 가는 것이 있다.
  evaluation.
- 5. SIP's of the Di standardization board concars unimounced 유료성 교문의 위원에서 SIP 는 가지 나는지 그런지 그런지 한 evaluations of aviation units, in all phases of incorround aviator 연을 항공구적의 4점을 공표하는 않고 실시간다.
  craining. Idministrative procedures and records are also evaluated.
  에너 문자 이 기를 보면 당기는다.

I. Sumary.

£ 9

de the elfective standardisection program provides a means of

화학자인 보존의 기부는 인정된 스튜스 기 assuring eviator and instructor proficiency, standardized training,

교생기 수업, 보존되 는면, 인턴 및 수는 이 단만된 문지를 제결 exfequent a system to reserve aviation related problems.

िता थी। उन्हेला ६ ६ ६ मा ६ अवतः

T. The information is included to assist NOKA to establish a

Standardination program to meet their mode.

구후일가기 위한 방송군의 모음을 주지 될 것이다.

37 Subjects for Discussion (See Inclosure 3).

(조선 (점점) 취직 위로 인호

in. Commination

**19** 

To be decorained in the Training Seminar based agon presentation

· (意思 시에나의 검증을 위하여 밝힌 및 토의에 기요를

투었다

V: RECOMMENDATIONS

平行

To be decormined by Training Workshop participants. Recommendations 문의 참가 노위인의 축가를 길입니어의 한다. 의견 상신은 stanted support conclusions.

경은 22 이들어 이탈 수 있다.

#### REPERENCES

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AR 95-1 Army Aviation: General Provisions and Flight

육규 95 - 1 육근 항공 : 일반 규칙 및 비해 유성 Regulations, 30 September 1978.

1978년 9월 지일

USABAAR Study on Aviation Standardization, October 1963.

항공 보는과 연구 Directorate of Evaluation and Standardization, USAAVNC, Ft Rucker, 경기 및 보는의 위원의, , 우기요기, 급기막이 50362 Alabama 36362.

Department of the Army, Letter of Instruction, 29 June 1972, Implementing 유규성, 문항, 1972년 6월 동양 유규항공 the Army Aviation Standardization Program. 표근학 계계 방청

# 경기 1

#### TYPICAL IDSTALLATION BOARD MENBERSHIP

역표 성진 위원의 독염 기급

President = Installation Aviation Officer

지수 성적 항공 기기 Secretary = May be a Standardization Instructor Pilot (SIP)

기늘년 로일식 교관 소증시 의음

Aviation Standardization Officer = Usually Full Time Board Member

Aviation Safety Officer - Usually Inscallation Safety Officer

프문화 장고 통상 안전 강교 외경

Alscraft Maintenance Officer = Unit Maint Officer or Ava Maint Co Cadr .

장고 혹은 방송 정식증의 기위관 항공기 Might Surgeon = As a minimum a medical doctor

최소한 문의관 일당

Scindardization Instructor Pilor = an individual to represent each type

교학 조정사 시선 혹은 단위부터의 및 기사별 医多霉 airceafe in an install rion or out

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Inscriment Flight Examiner = May be a

7, 7; - 비형 - 시성시 가능관

TYPICAL AVIATION UNIT STANDARDIZATION PERSONNEL -

The second 그 부터 포문학 이얼

Uni: Come add: = Establish policies and priomities

- 경상 및 위선원을 작년작

Openitions Officer = May also work as standardination officer or may be

기의성 교상적 강교소 근취약는 것 이 혹은 기급적 unit training officer

THE EAR OF THE

Instituto : Palaca = At lengt one per type attoract and more as required

교환 작품사 실역되 박당기 당당 1을 취임 그 역상

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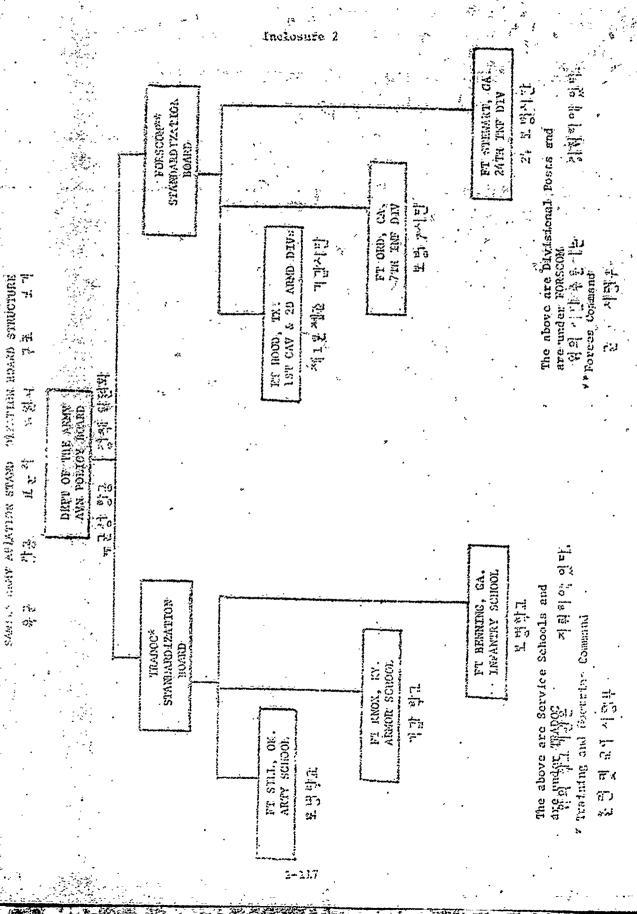
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게기 이비례 시험사 이름상 동백규모당 그림

NOTE: Instructor pilous and Instrument Flight Examiners are designated

고간 조승사 및 기기 비용 시기자는 수익면지장이 duty positions in unit Tables of Organization and Equipment.

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Inclosure 3

## SUBJECTS FOR DISCUSSION

토의 .

1. What is the goal of a ROKA Aviation Standardization Program? 한국 유군 표근학 기취의 목표는 무엇인가

추적

- 2. How should the program be structure!? 어떻게 가열을 수립하 것인가
- 3. How and where should the IP or IFE candidate be selected 이렇게 어디서 선택되고 권련된 그 수 원칙를

and trained?

보집합 것인가

4. Now should the interface between training and standardization 는런 이 표는의 상호간이 돈같은 어떤가 처리를 것인가? be accomplished? ISSUE: ARMY AVIACION EMPLOYMENT TRAINING CONDUCTED AT SERVICE SCHOOLS

# ACITANGONTAT . I

To who future beenles our soldiers will need the best westone that think on the test of the test westone that

industry and cochrology can provide. Proficient, wall-cruined gramming out

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the description of dray articles unite the combined drag than provides of the communities a wide variety of tactical alternatives. A prime resource for MARC ON ARCHIOLOGICAL TARREST ARCHIOLOGICAL AR

Since the state of 
cantara. The service school to the source of combat development and Light of the State development and

doctring. It is an important means by which we provide leaders and of the transfer of the state 
ultiply the cocates and cochained which will contribute to backle

auccess. It is casential that meaningful, feeliatic tray aviation employ-

mone evaluing he conducted in each service school.

유급 항문 윤두의 관계의 교육을 시키어 함께.

II. PURPOSE

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The first of the first of the continuous areas concentrate than adapting and continuous areas concentrate than adapting an east of the first of the fir

A. The type of instruction each sarvice school teaches and conducts 가 된다 하고 아니 아이를 고유 경식

(edurations, producted on-words, seminar, etc.).

. Aviation employment inflegrated into related inscruction, tactics, 건숙, 국수등의 본건인 중국적인 항공운동

logistics, etc.

G. A logical progression of Army aviation employment instruction 각 군사고육과장이서의 육급 강공운용 교육의 대한

begggen military education levels.

분퇴기인 각정

D. Assurance that concinuous aviction employment training is 비가기 가고를 이게 군경력 호기부 및 하공운용이 다른

being taught to non-rated officers from the beginning of their career, 교육은 기속적으로 심시험으로서 기계관이 육근 경공의 문화등의 및

so commanders better understand the operational capabilities/ligitations

of Army avietion.

TILE DISCUSSION H L

A. Army Aviation as a Member of the Combined Arms Team. Now that

e have the doctoine, the equipment, are aware of the throat, and are 무기 육군 항공은 문용교리 및 장비를 가수 있으며 기위함이 다한

property trained, Army eviation will provide greater depolitities to the 이 나는 편이 있다. 또한 문문이 잘 되었기 때문이 중나전에서 전상이되는 ground commander on fugure bartlefields. As with every other weapon system 이 보다 바다 등록은 지금학자입니다. 육군 항공이 보유하고 있는

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olemant of the Army as long as they are amployed properly.

- B. <u>Extering Arthetral Employment Theorypetion</u>.

nchools in shown as Inclosure ). Theservation is listed by subject, 기가 가게 하면데 하면데 기가 기가 되었다.

sicademic hours, and mathod of presentation. This roview of vervice 지수 말입으로 본투 되지 않다.

school instruction shows a generally basic approach for young it 이러로 따라 보다 다 되었다.

and more complex var gaming techniques for the senior aiticers. Note

that nome achoole rotally neglect aviation subjects ut deredul levels 이번 교육 과장의 작가는 항공 자주용 전략으로 선수, 기지만는 방화학교가 있었는 SANCE STATE OF THE SANCE OF THE

than do other schools at similar levels of training. This list of 항공 작용된 아이, 이유 많은 시간을 받았다고있다. 이 교육기부표는

instructional programs is not meant to outline a program for ROKI. It 한국 육군의 교육기정을 설명한것이 아니다. 본교육

and to some instances oversights in training programs. The instructional 이기의 표현되어야은 발가의 사람이 살고되어있다. 기본 교육 사람은

approach should be to teach the officer the employment of the particular I to A The 
size aviation unit that will be providing his support. The public reas

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were expenses of all forms in the combined acms coan to depending on

recomposition and training which should be specifically tailored to the grant of th

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Imitations of medium-lift alreadt, rather than that of attack alreadt.

Implication could be developed by the Aviation Center based on the student's Army aviation employment knowledge required at that military of Infile Infile Information amployment knowledge required at that military of Infile Information for Infile Information Course, Command Infile Information Inval (Officer Basic Course, Officer Advanced Course, Command Infile 
and Ceneral Staff College, etc.). The Infantry officer is taught, at all 보병 장기는 모든 그윽 학자이다

Tevels, the employment of Armor and Aprillery; the Armor officer, the use 기가 기가 기가 보면 있다.

of Infantry and Artillery; and the Artillery officer, the roles of Infantry
보변도 있는 보험자 기가의 역간이다.

and Armor. Since Army aviation is now a confirmed member of the combined with the combined with the same team, instruction on its employment should be treated with the same

importance.

출표심으로 '무금되어의 의학

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program about the comparable and exequatible with the aviators con-raced 아 그들은 기사면 하는 교통사악 기교에서 그건이 없으로 하다

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2. Training to mest the ROZA need is the principle concern and 한국 유구 에 맞는 훈련을 실시하는 것이 가장중요한 군심하이의 따라시 parvice school training should be designed to deat that requirement.

3. Subjects for Discussion (See Inclosure 2). 보일주제 (설투 2 출고 /

# IV. CONCLUSIONS

경 톤

To be determined in the Training Sminar based upon presentation 훈련 세미나의 경혼은 제의 및 토틱이 기즈를 등 and discussion.

### V, RÉCOMMENDATIONS

거 의

To be determined by Training Workshop participants. Recommendations 교육분가 소설력 소급가 가는 이 의혹, 그것 같아 건의 사랑은 should support conclusions.

걸른 사람을 뒷받지 말수있어야함.

# Recentorques

- 1. 所 100-5<u>。Operations</u>, July 1976.
- 2. FR 90-1. Prologuear of Army Avintabilities in a light Throng Frytrongent.

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  September 1976.
- 2. USABAS, Course of Instruction (2-5-C20) Pield Artiflory Officer Banks

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- 4. USARAS, Course of Instruction (表面の22) Field Artillery Officer Advanced 中語語 はは、中間に一の利益で、、 ではまずるままへは、1977世 のは Crores, June 2977.

- 7. FR 71-2. Aug Tank 2.12 Hoodanized Infinitry Saturation Task Force, ではまた。 一、 という マスト エラー・ 共享的サナー。 ハーラ tona 1977.
- B. Marks, unusu of Inscrinction, (2-7-022) Inforces Office the west of Marks 122, This content of the Third 122, This content of the Third 122, 
# Inclosure 1

ACADRATC HOURS AND TYPE AVIATION EMPLOYMENT 방국무료으로 선수되는 기상적 기간 및 INSTRUCTION CONDUCTED BY SERVICE SCHOOLS 우리 등등 운동 당신으로 기간 구신

The following information was compiled by review of courses of instruction, entry of the Adams of Adams Adam

a. US Army War College, Carlisle Barracks, PA.

- b. US Army Engineer School, Fort Belvoir, VA.
- (1) No formal employment training in either basic or advanced course. 보통 및 호통문하다 중에 문통이 다른 승규는 이 호텔
- (2) Aviation assets in the Corps are addressed in Combat Service 등급받도 등급하였는 근무근 하다른 및 작은 기간중 을 다 보다. Support, and the Operations Wind-up (Practical Exercise).
  - e. US Army Transportation School, Fort Energie, VA.
  - (1) Transportation Officer Basic Organization and Employment of 가능 가능 문으로 다 보다 하는 기를 다 보다 수 있다.

Army Aircraft (1.0 conference).

and Amployment (3.0 conference).

- The Us army Field Arcellary School, Fore Sill, CA.
  - (1) Hold Armillery Officer Basic Service Practice (Air Shoot)

(632 practical exercise); adjusting scrillery from an aerdal placform

in perraia flight mode.

- (2) Field Aftillery Officer Advancec.
- (a) Army Aviacion Employment (0.9 conference) iden stypes. 公元 记录 企业 (0.7年) 元元 (元元)

of hiverals in the Army invencory; defines command columnships between the office of t

arganizations (non-tested).

(b) Exployment of Armored/Air Cavalry, (1.5 conference, 0.1 film, 7.7 % 7.7 % 2.8 % (7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 % 7.7 %

0.9 gractical exercise); describes employment considerations and

alsaions of the amount/air cavelry units.

(c) Ale tasault prairies is incomposed into lest ruction on light

infantry in the offense and defense.

- e. US Army Armor School, Fort Knox, KI. 미술군 기가학교, 포츠 닉스, 센터기
- (1) Armor Officer Addic 기장, 호등군시반
- (a) Performs dury of an acroscout; plan and conduct route recon-항공항하다 임무수형 : 안토건값이 따라 가와 및 naissance, demonstrates serial observer techniques. This is integrated 심시 , 항공 간숙기술 시발 이 원론은 발송 into Mounted Tactical Training, Cavalry (5.0 conference, 3.0 demonstration, 건숨 문편의 당강, 기압 (5.0 conference, 3.0 demonstration, 건숨 문편의 당강, 기압 (5.0 conference, 3.0 demonstration, 31.0 practical exercise).
- (b) Air cavalry weapons publicy (1.0 conference), identification 기간 항공 작기 등의 (1.4)간 강의 기급기원기 강작용 of the atrack helicopter weapons subsystems and the types and character-막기 장치와 기용 -간약의 중류 및 특성이 = 발 이동, istics of available aumunition.
  - (2) Armor CEiluar Advanced 기급 · 그들 군작반
- (a) Cavalry Organization and Missions, (1.0 conformace), discussion 기간 변제 및 일부, (1.0 시간 강의 , 기압 및 이 하다 missions organization, and capabilities of armored and air cavalry 기간 항공부 되의 일부 인상과 등학의 국학 표의 설시 unit.
- (b) Artick Helicopter Implayment (1.0 conference; 1.0 television); 공기 발기운동 (1.0시간 강의 , 1.0시간 시설 ) emplemention of missions, organization, and espatializates of air dayaby 기간 항공 및 공기 엔기 부탁는 일부, 문성 및 돌편이

and actack hadoopter ducts. The doctrine of employment of the attack

hell-copter company in offensive and defensive operations.

(c) Use of the attack helicopter is integrated in a 20-hour 공기 원기 윤충은 강에 기골이 20 시간

Block on delinese planning, and a 14 hour block on offense planning. 즐겁 기술이 14시간으로 일본다.

(d) Breakout and Linkup Operations (5.0 conference, 3.0 practical 문학 및 인기가전 기소시간 강한, 3.4시간 신설

axercise, 0.5 exam); planning and execution of a preakout/linkup operation.

to include placing for attack helicopter support.

基準 및 연결확전은 그림 및 실시

(e) Desert Operations (2.0 conference, 1.0 television, 1.0 practical

exercise) special effects of the desert environment, to include special

fechniques for amployment of air covairy and attack helicopter units. 구조의 윤흥의 호텔 독특한 기술 보렴.

(f) Integrated in Screening Operation (8.0) is the planning and

éxécution of screening operations conducted by armored and air cavalry 설명 전시되는 수강차진의 기획및 실시

,squadrons.

- f. USAADS, Fort Bliss, TK. 기 항공학교, 프로글디스, 크리스
- (1) ADA Officer Basic None. 당공표병 소통군소한 - 원유.
- (2) *A Officer(Advance) How to Plan Airmobile Operations, (1.0 성동원) 고등군수반 - 중중 기통학전 기부은 어떤가 한탁학

conference), the five step backward planning sequence.

- g. USAIS, Fort Benning, CA. 막 보험하고, 분드만난, 효자야
- (1) Infantry Officer Basic Training Small Units in Airmobile 보병 스튜글스탄 - 공중기를꾸존스러드 스누트.

Operations (1.0 conference, 6.0 practical exercise, 6.0 exam), presented 문헌 (1.0 강학) 이 스스크 실출, 이 스스크 스플 (1.0 호텔 (1.0 o텔 (1.0 o� (1.0

Airmobile Operations (1.0 conference, 1.0 practical exercise), develop 환경원적 교육이다. 강의, 교육 시간 선물 기를 구축 ground tradical, platoon loading, and landing plans for an airmobile 기통관점은 유한 기상점을 건가 스트 발가 및 가득 operation.

7. 필

(2) Infantry Officer Advanced - Airmobile Operations (Integrated) 보병구를 급하다 - 등등 기통하면 병합.

h. USAAVAC, Fort Pucker, AL.

(1) Aviation Marrant Officer advances.

(a) Organization of Aviation Units (3.7 conference, 0.3 practical 등 등 부드, 전 점 (3.2 시간 강역, 0.3수간 선술, Marthan).

(b) Air devalry Operations (3.0 conference). 기가 항공 윤양 (25 시간 강식)

(c) Arlacton in the Migh Threat Environment (2.0 conference).

(d) Acquek Helicopter Operations (2.0 conference).

공기에게 돈을 내가 시간 같다. (e) Air Cavairy Combat Brigade (2.0 conference). 기계 활용 전투 이라 나 그리다

(회) All Assault Operations (4.0 conference, 2.0 seminar), general 공항 공유 하면 하다 사고 시간 공목, 2.4시간 시기다.

Riowledge.of principles, reconfigues and employment. 발생, 가는 및 운동의 조건 일단 기회

(g) Figure Concepts of Army Aviation (3.5 conference, 2.5 film).

(N) Findpower demonstration (4.0 demonstration). 유무스 기업 및 사고 스크리 기업,

(2) Marrana Officer Sanior Course, Firepower Demonstration 문부 성구 기가 되는 독일 수별 다니스킨스트

. (4.0 demonstration).

(3) Aviation Commanders Readiness Course.

(a) Extraction in the High Threat Environment (4.0 seminar).

(b) Immbile Operations on the Movern Battlefield (1.0 conference). 전 전 전 기본 등 등 기를 맞힌 지금 수 간 보니 /

i. Command General Scaff College, Fort Leavenworth, KS.

Practical experience in application of air systems in the land patels (war & 1971) ( 1971) (1971) ( 1971) ( 1971) ( 1971) ( 1971) ( 1971)

- (1) Introduction to Army Adapt a (2.0 confirmate).
- (2) army Ariation Diproyment to incograted throughout the course 中華 等 3 3 2 2 4 4 4 2 2 5 5 15 5 17 5 17 25 17.
  In practical exercises.

### ABSYZOCKY SALA 빨리사건 경통

1. Marriculus Pamolilar, VS Army War College, Academia Mar 1978.

是对性的心,但是是是是一种的人,因此是

2. USAFAS, Course of Instruction (2-6-620) Field Archlery Officer Basic [일이 이 요즘 이번 표별할죠. 교수학원 (2~5~~~~~)201 어린표번 표표표시한,

Caurna, Juna 1977. 127721 62

I WSAFAS. Courad of Instruction (X-5-022) Field Artillery Officer Advented 에 유고 아센트변화교 교수 파건(2~~~~~)221 기간 요즘 급시탄

Course, June 1977.

1977 0 9

44 - Waddays, Course of Instruction (2-17-020) Atmos Officer Basic Course, ·존리 요즘 기가 바다 교수 파업 (2~12~~124) 기강 ~등 급이반

June 1977.

HO Part

3. USAMOS, Course of Instruction (2-17-022) Acmor Officer Advanced Course. 그림 교육 기가 하고, 그가 작가 있는데 가는 다른 사람이 없는 함께 없는데,

August 1977.

In Prince

6. Latter, beaald, Fort Bliss, IX, Army delution Employment Conference. الار والمراث والمراث المراث ال 25 Nov 1978 25 Cl

7. Asster, USAN, Fore Bearing, CA, Army Aviation Reployment Training. लिया प्राप्तितः, हता, वाला, बहुत वेद हुई ।

.50 November 1977.

医阿尔纳氏 计图 50 世

8. Usaaval, Course of Tastruction, (2-1-032) Avistion Marrant Of Marr मान्य अवस्य १८५५ ८००५० वर्षा वर्षा वर्षा वर्षा

Advantage Control, thresh 1977.

福島 经经济债券

9. USAAVNC, Course of Instruction, (1-1230-07) Warrant Officer Soniar Course, March 1977.

10. USAAVNI, Course of Instruction (20-F-15) Aviation Commanders

Readiness Course, July 1977,

# supjects ros piscussion

- 2. What can be done to insure that all commanders receive sufficient REALENT, IEC MARE ALL RESTER AND SELECTIVE TRAINING to confidently employ Army aviation as a highly affective ALLE RESTANCE RESTAURT 
이 가는 사람이 하는 가수

- 43. Should audiction branch officers instruct in other service schools?

  하는 경우 (기구 이 프리트 라고이지 교육을 실시한 중요설이 이는기 *
- 4. Should there be an aviation basic and advanced course? 결과 조등직접 및 교통직장의 크로질이 있는가?
- 5. Should specialists in other branches instruct training at the 특별국의 전문기가 양물학교에서 교육을 심러할 때요?

心とす?

5. Should consideration be given to an exchange instructor program of the FAR IE ALL THE TOTAL TOTAL TOTAL TOTAL PROGRAM

with allied rations?

7. The most effective means of conducting units assising should be 4 = 246 447 = 78 4492 456 944 449 considered as a school subject.

NCLOSURE

# REPUDLIE OF WORLD





# ANN AVIATION LOGISTICS WORKSHOP

APRIL

1979

# LOCISTICS ISSUE PAPERS

## TABLE OF CONTENTS

LOCISTICS ISSUE	PAGE
WORKSHOP ONE: MAINTENANCE - ARMAMENT AND AVIONICS	
정 비 - 무장 및 항공건자공학	•
3 TEL AVIATION MAINTENANCE	3-1
aটাৰ ছাই বা ^ন	·
QUALITY CONTROL PROGRAM	3-16
그 실적 관리 계획	
AVIATION GROUND SUPPORT EQUIPMENT (AGSE)	3-21
항공 기상 기원 강비	
PHASED MAINTENANCE	3-29
단계적 경비 .	
ARMY OIL AMALYSIS PROGRAM (AOAP)	<b>3-</b> 33
옥근 유튜 본격 계획	
WORKSHOP THO: MAINTENANCE TRAINING, OTHER	•
정비 흔현, 기타	
FORWARD ARMING AND REFUELING POINT (FARP)	3-37
건방 부장 및 재급유소	
TRAINING DEVELOPMENT PHILOSOPHY	3-44
走到 相對 路司	
AIRCRAFT MAINTENANCE OFFICER TRAINING	3-54
항공 정비장교 수리 기술 훈련	
AIRCRAFT REPAIR SUPERVISOR & TECHNICAL INSPECTOR TRAINING	2 <b>6</b> 7
항공기 수의 과목관 및 기술 검열관 흔편	3-57
DEPOT MAINTENANCE VS. CONTRACTOR	3-61
	2-07
······· 보급층 정비 박 ·제약업자 ON CONDITION MAINTENANCE/AIRCRAFT CONDITION	•
ON CONDITION MAINTENANCE/AIRCHAST CONDITION EVALUATION (OCM/ACE)	3~66
조건부 정비 / 항공기 상태 평가	

### TABLE OF CONTENTS

LOGISTICS ISSUE		•	:	PAGE
DEPOT SUPPLY	•			3-69
창 보급				
			*	<b>:</b>
WORKSHOP THREE: LOGISTICS MANAGE	EMENT		, , ,	• • •
교수 관계	5 . • •			
ATRORAFT SYSTEM MANAGE	MENT		· · · · · · · · · · · · · · · · · · ·	3-81
항공기 커게 관리	•	;		•
FLYING HOUR PROGRAM			•	3-90
비행 시간 계획		. , .	, · ·	. • .
material fixeding		•		3-94
불자 야건 배치		v .		·
WORLDWIDE AVIATION LOC	SISTICS CO	NFERENCE		3-101
. 세계 항공 근수 회	의			
INTEGRATED LOGISTICS S	SUPPORT (I	ເສ) ີ	. •	3-106
홍합 교수 지원			,	
rationalization, stant	DARDIZATIO	N, AND INT	eroperabili	TY 3-110
합의화, 프론화 및	상호 운영	성		

LÓGISTICS WORKSHOP ONE 군수 연수의 1

Maintenance- Armament and Avionics

정 비 - 무장 및 항공전자공학

issue: Thres-Level Aviation Maintenance

世界。 35克 对 40mm

- I. INTRODUCTION
- I. H

Beveral factors: experience in Vietnam, the introduction of new 경우니다. 주 변화남에서의 강경, 신흥 고성는 항공기 백제의 sophisticated aircraft systems, a need to obtain better utilization of 도입, 인성 및 라비를 다 등 계 사용한 일으상, 우리는 모든 타메가 변경에게 personnel and equipment, a recognition that we are in an auscority 소비되어가 하는 내리시대에 하고 있다는 인식, 그리고 가장 중요한 것요. period where every dollar must be wisely spent, and most importantly, 면데라군의 항공 기동상 개념에 대한 코나는 전투지원을 제공하는 것. to provide greater combat service support to the air mobility concepts 등 입니다.

of a modern Army.

The same that the

### II. PURPOSE

### ा. 🖣 🌣

To provide ROKA aviation logistics officers an understanding of 항공 경제를 위한 변형 미유군 조직을 한국으로 항공군수장교에게 the current US Army organization for aviation maintanance.

III. Discussion

III. 🖫 🚨

A. The objective of Army aircraft maintenance is to insure safe, 가. 육군 항공기 정비의 목적은 안전하고, 신리함 수 있으며, 유지함 reliable, and maintainable aircraft. It provides maximum operational 수 있는 항공기의 확보이니다. 이것은 육군 항공기 정비를 가장 readiness of the total system through the accomplishment of maintenance 효과장이의 당재적으로 수행할 수 있는 정비 상태를 관료합으로써 전 세계의 where it can be most effectively and economically performed. This 의대 가뭄 준비에서를 갖출니다. 이것은 includes airframe, engine, major components, AVIONICS, aerial weapons 기계, 엔진, 주요 구성들, 항공전작공항, 항공 확기, 사격용제/사업지취, fire control/fire direction, and other airborne ancillary equipment 및 전 파기 체제 개념을 지원하는데 필리한 기막 공수 보조 장비 공율 necessary to support the total weapon system concept. In furtherance 포함하니다. 본 목적을 촉진 of this objective, three levels of aircraft maintenance are recognized 시키기 위하여, 전술한 모든 것을 위해 항공기 정비의 3만개 : 항공부대 for all of the foregoing: aviation unit maintenance (AVUM), aviation 정비, 항공공간정비, 및 보급창정비, 를 인정합니다. invermediate maintenance (AVIM), and depot maintenance.

B. Until the implementation of the three-level concept, Army 박. 3단계 개념이 실행되기 전에는, 육군 항공기는 재계의 4부류 구조; atteract were maintained in accordance with the conventional four-루텍 정비, 직접지원, 일반지원, 및 보급장에 따라 정비되었었습니다. category structure; organizational, direct support, general support,

and depot. Operating aircraft elements were authorized to accomplish 운영 항공기 부때는 종합 직접지원정비라고 알려진 광력읍 a capability of what was known as integrated direct support maintanance 완소하도록 인가되었을니다.

(IDSM). IDSM was the addition of skilled personnel and special tools 용할 직접지원장비는 그들로 하여급 목수한 양의 직접지원정비를 into the organization to enable them to accomplish a specific amount of 기능하게 하도록 하기 위해 숙진은 요원 및 교수 공구를 조직에 부가하는 DS maintenance. Under the four-estagory structure, transportation 기입니다. 4부류 구조 학에서는, 수송기 정비중대가 사라 및 비사라 aircraft maintenance companies provided direct support at both the 수준에서 직접지원을 제공했습니다.

divisional and nondivisional level. They basically provided a repair

and return to the user service. Backing up the DS maintenance units 수리 및 반송을 제공했을니다. 비스타 수준에서 인기된 수송기 정비 were the transportation aircraft maintenance general support companies 입반지원 중대가 시작지원 정비부터를 지원했을니다.

that were authorized at the nondivisional level. These companies pro-

vided a repair and a return to the supply system service. Depot 세계 업무 에 수리 및 반송을 제공했습니다. 보급상 maintenance was provided by either Continental United States (CONUS) 정비는 기본도 보급상 일반시설에 의하기나 또는 가 군간 업무지원 협정을 depots, commercial facilities or through cross-service agreement. 몸 에 제공되었으니다.

C. In effect, the transition from the four-category system to 다. 결과적으로, 4부표 제제에서 3단계 제념으로의 변이는 3단계로서 the three-level concept has redistributed the responsibility and the 목수 항공기 정비 기능을 완수하기 위한 책임 및 인기를 제본 배하였습니다. authorization to accomplish specific aircraft maintenance functions at

the three levels. AVUM is in reality what is recognized as a unit 항공부 때정비는 사실상 표수한 양의 직접직원 정비를 responsibility to accomplish organizational maintenance with a capa-한수할 능력으로 부대정비를 완수하는 부탁적임으로 인식되고 있읍니다. bility to accomplish a specific amount of direct support maintenance.

Percentage wise, AVUM includes all of what the maintenance allocation 항공부대장비는 정비할당표가 부대장비로 명시한 것 전부와 직접지원으로 charts (MAC) identified es organizational maintenance and approximately 명시한 것의 약 60~70 메션트를 포함합니다.

-60 to 70 percent of what was identified as direct support. AVUM really 항공후 때점비

represents no change since in actuality it formalizes the integration 는 사실상 전에 통합 직접지원 정비로 돌려졌던 부대정비와의 공항을 공식과 with organizational maintenance of what was previously called IDSM. 하는 것이기 대문에 아무런 변화도 없는 생임니다.

AVIM is an amalgametion of the remaining DS, approximately 30 to 40 항공중간정비는 나에게 약 30~40퍼센트의 직접지원과 정비합당표가 일반 percent, with a portion of what the MAC indicates as general support. 지원이라고 지시한 것의 일부를 포함합니다.

Specifically, that portion of GS considered applicable for AVIM is 특별기, 일반지원 중 항공중간장비에 적용될 수 있는 목은 약 40 페센트. about 40 per ent. Therefore, AVIM is made up of approximately 40 입니다. 고로, 항공용간정비는 직접지원의 약 40 페센트의 percent of DS and 40 percent of GS maintenance. The remainder of GS, 일반지원 정비의 40 페센트로 되어 있습니다. 일반지원의 나커지 or approximately 60 percent, has been integrated into deport level 즉 약 60 페센트는 보급한 수준의 정비로 통합되니다. maintenance.

D. The following paragraphs provide detailed information con-다. 학기 항은 항공기 정비 3단계의 각 단계와 관계되는 기능에 cerning the functions that are associated with each of the three levels 간한 자세한 정보를 찌급합니다. of direction maintenance.

- 1. Aviation Unit Maintenance (AVUM). AVUM acrivities shall
- 7. 항공부택정비.

항공기를 사용가능한

be staffed and equipped to perform high frequency "on-aircraft" main-상체로 제정할 또는 복귀시키는데 필요한 고주파 항공기 정비작업을 수행 tenance tasks required to realign or return aircraft to a serviceable 하도록 항공부대정비 활동을 위한 요원 및 장비를 내지합니다.

condition. The maintenance capability of AVUM will be governed by the

MAC and limited by the amount and complexity of ground support equip-지상 지원장비의 양과 복잡성, 필요한 시설을, 및 가용한 장소의 수의 인원 ment (GSE), facilities required, and number of spaces and critical 의 중요한 기술 등 예 의해 제한됩니다.

skills of personnel available. The range and quantity of authorized 인가된 여러 모듈 및 구성동의 법위 및

spare modules and components will be consistent with the mobility 양은 궁충기동개념에 제시된 기둥 소요와 의지합니다.

requirements dictated by the air mobility concept. Assignment of 사람 내외 중대

maintenance tasks to divisional company size aviation units shall 규모 항공부대로의 정비할당은 사단의 전적인 정비 능력, 인원 및 장비를 depend on the overall maintenance capability of the division, the 보존하기 위한 소요, 및공중기등소요 에 의존합니다.

requirement to conserve personnel and equipment resources, and air

mobility requirements. The following tasks will be performed by 하기 업무가 증대급 부대에 외계 수 했답니다: company size units:

a. Preventive maintenance, repair, and replacement which shall 가. 고수준의 항공기 운영 준비째세를 유지할 방호 정비, 수리, sustain a high level of aircraft operational readiness. These tasks 및 대체.

shall include preflight, daily, intermediate, periodic, phased where 인가딦 시의 일일, 중간, 정기, 및 단계별 트 행준비 및 MAC 또는 상급 authorized, and special inspections as authorized by MAC or higher 사명부 에 의해 인가를 시의 목수 강영을 포함합니다. headquarters.

b. Identify causes of equipment and system malfunctions using 나. 적용가능한 기술교범,고장함구 지집,시험장비,항공기 계장, applicable technical manual troubleshooting instructions, built in 시점 주정 및 판단 장비를 사용, 장비 및 세계의 기능 마비의 순인을 test equipment (SITE), aircraft instrumentation, test measurement and 확인합니다.

diagnostic equipment (TMDE).

- c. Replace worn or damaged modules and components which do not 다. 복잡한 조정 또는 세계 정말을 필요로 하지 않는 낡기나 손상된 require complex adjustments or system alignment. 또들 및 구성들을 대체합니다.
- d. Perform operational and continuity checks and make minor 학. 요형 및 계속성 점검을 수행하며 전기계제에 소단위 수리를 repairs to the electrical system.
  가합니다.
- e. Inspect, service, and make operational capacity and pressure 마. 수력체제에 대해 검열 및 지원하고 운영 수용량 및 압력을 · checks to hydraulic systems. 접검합니다.
- f. Perform servicing, functional adjustments, and minor repair/ 바. 비행통제, 추진, 등록 기관차, 및 연료제제에 대해 근무, 기능별 replacement to flight control, propulsion, power train and fuel 조정, 및 소단위 수리/대체를 수행합니다. systems.

- g. Accomplish airframe repair which does not require extensive
- 사. 공병위한 본 역, 유정, 또는 성영을 필요로 하지 않는 기계수 비를 disassembly, Jigging, or alignment. The manufacture of airframe parts 안보한다.
  기계 부분들의 제조는 전쟁 급증 will be limited to those items which can be fabricated with tools 기명 금부 및 작업장 센트 에서 찾을 수 있는 금구 및 장비로 제조할 수 and equipment found in current airmobile tool and shop sets.
  - h. Evacuate unserviceable modules/components and end items beyond
- 아. 사용 경기들만 모든/구성을 및 항공부대정비의 수비 능력을 조각 the repair capability of AVUM to the supporting AVIM. 하는 항목을 항공공 간정비로 무용시킨다.

For aviation elements which may have less than 10 aircraft assigned, 10대 이학의 항공기를 부여받은 항공부대통 위해서는, 장비는 항공기 승부은 maintenance will be performed that can be accomplished by the aircraft 장 또는 임무표 부여받은 항공기 수제공이 수행, 완수한다.

crew chief or assigned aircraft repairman. It will normally be limited . 이기은 동산적으로 방로 정비,

to preventive maintenance, inspections, servicing, spot painting, 김업, 지원, 페인트침, 드립팅, 미봉, 소단위 조정, 모듈/구성품 고장 stop drilling, application of nonstress patches, mino: adjustments, 진단, 및 선정단 모듈/구성품의 대체 등에 한정단다.

modula/component fault diagnosis, and replacement of selected modules/

compenents. Repair functions will normally be accomplished by the 수지 기능은 공상적으로 항공중간장비 중대에 의해 수정 supporting AVIM company. 티타.

- 2. Aviation Intermediate Maintenance (AVIM). AVIM activities
- 2. 항공 중간 정비. 항공중간정비 활동은 provide mobile, responsive, "one-stop" maintenance support. Maintenance 기통적이며 반응적인 "원스스템" 정비 지원을 제공한다. 항공

functions which are not conductive to sustaining air mobility will be 기통성은 전지하는 때 도용이 되지 않는 정비기능은 보급한 정비 외부로 assigned to depot maintenance. In addition to authorized AVIM-level 부여딦니다. 인가된 한궁중간정비 수준의 임무에 tasks, AVIM is also authorized to perform all AVUM functions. Repair 부가하여, 항공중간정비는 또한 모든 항공부대정비 기능을 수행하도록 of equipment for return to user will emphasize support of operational 인가되니다. 사용자에게 복귀시키기 위한 장비의 수비는 운영준비소요의 readiness requirements. Authorized maintenance includes replacement 🧠 인가된 정비는 가용한 기술, 공구, 및 장비로 지역을 갖조합니다. and repair of modules/components and end items which can be accomplished 효과적으로 완수할 수 있는 모표/구성품 및 완제품의 대체 및 수리를 포함 efficiently with available skills, tools, and equipment. The following 하기 업무가 합니다.

tasks will be performed by AVIM units: 항공중간정비 부대에 의해 수행됩니다 :

- a. Conduct the direct exchange (DX) program for AVUM units by
- 가. 수리가 항공부대정비 수준에서 안수되 수 없을 시, 복구를 위한 repairing selected items for return to stock when such repairs cannot 신정 플목을 수미함으로써 항공부대정비를 위한 직접교관 계획을 실시 be accomplished at the AVUM level. 합니다.
  - b. Inspect, troubleshoot, test, diagnose, repair, adjust,
- 나. 방금기 제제 모듈/구성품을 검열, 고장검사, 시험, 진단, calibrate, and align aircraft system modulas/components. 수비, 조정, 정밀도 측정, 및 정영합니다.
  - c. Determine the serviceability of specified modules/components
- 다. 분 배수 리시간 반기 도는 한정수명 전에 제거된 특수 모듈/구성등의 removed prior to the expiration of the time between overhaul (TBO) or 사용성을 검정합니다.

finite life. Module/component disassembly and repair will support 모듀/구성등 본 배 및 소리는 직접교환 계획을 지원하고, the DX program and will normally be limited to tasks requiring cleaning 용상적으로 심스, 피팅, 및 일반 하드웨어 등목의 세척 및 대체를 필요로 and the replacement of seals, fittings, and items of common hardware. 에는 업무로 제한됩니다.

d. Repair airframe and fabricate parts with available tools and 다. 가용한 공구 및 시험 장비를 사용, 기체를 수리하고 부동을 제조 test equipment. Unserviceable, reparable modules/components and end 합니다. 항공증간정비의 수리는 및을 조각하는, 사용성은 없으나, items which are beyond the capability of AVIN to repair will be 수미할 수 있는 모급/구성품 및 안제품을 보급한 정비로 부승합니다. evacuated to depot maintenance.

- e. Perform aircraft weight and balance inspections and other 다. 학교기 중량 및 근형 검열 및 기타 항공부대정비 능력을 초파 special inspections which exceed AVUM capability.
  하는 국수 김영은 실시합니다.
- f. Provide quick response maintenance support. including aircraft 바. 기둥 정비 연락간임 사용하여 항공기 복구 및 긍정 부송, 실루교육, recovery and air evacuation. on-the-tob training (OJT). and technical 등을 포함한 즉각적인 반응 정비 지원을 제공합니다.
  assistance through the use of mobile maintenance contact teams.

Division AVIM units must receive airlift support from a supporting 사단 항공중간정의 부대는 항공기 복구 및 공중 후송을 완수하기 위해 air transport unit in order to accomplish aircraft recovery and air 공수 부대로부터 공수 지원을 받아야 합니다. evacuation.

- g. Nondivisional AVIM units are authorized operational readiness
- 사. 비사단 항공중간정비 부대는 가공 준비된 수상 항공기를 보유 학도록 float aircraft.

인가되어 있을니다.

TO THE PARTY OF TH

- h. Provide collection and classification services for serviceable/
- 아. 사용가능한/사용부가능한 물자에 대한 수집 및 본류 업무를 제공 unserviceable material. 합니다.
  - i. Operate a cannibalization activity in accordance with AR 750-50.
- 자. 육규 750-50 에 의기, 등류전용을 실시합니다.
  The AVIM company organic to the divisions shall perform AVIM functions
  사단에 프리되어 있는 항공증 간정비 종리는 공중 기름 소요 및 인원, 장비
  consistent with nir mobility requirements and conservation of personnel
  자원의 보존과 의지하는 항공증간정비 기능을 수정합니다.

and equipment resources. Therefore, the degree of accomplishment of 고도, 상술된 기능의 성부도는 사단 내의 항공

the functions indicated above must be tempered to the capability of 등 간중에 부계의 등록과 조약을 이루어야 합니다.

the division AVIM unit. Additional AVIM support will be provided by 부가적인 항공중간형비 지원은 항공승간정비

the supporting mondivisional AVIN unit which can be staffed and equipped 기능을 진적으로 수행하기 의해 인원 및 장비를 백지받을 수 있는, 비사는 co accomplish the full range of AVIM functions. 항공중간정비 부대가 제공합니다. E. Depot maintenance of aircraft and aircraft modules/components 마. 항공기 및 항공기 도도/구성들의 보급장 정치는 미옥군 물자 is managed by the National Inventory Control Point (NICP) in coording 및 준비 사형부와 결조, 국가재고공제소가 관리합니다.
nution with United States Army Material Development and Readiness

Command (DARCOM). It is accomplished in organic facilities, by 이것은 리간 피수와의 거리에 의학기나 또는 각

concract with commercial firms, or through interservice agreements 군간의 상품지원 경정을 금액 근계상 시설로 완수합니다.

vich other military services. Depot unintended includes the following 보급상 정비는 학기 기능을 포함합니다 :

### functions:

- 1. Overhaul.
- 1. 분 해수 비.
- 2. Conversions.
- 2. 품목 전환.
- 3. Major repair.
- 3. 주요 수익.
- 4. Modification.
- 4. 개조 (개수)
- 5. Manufacture of items not supported by the supply system.
- 5. 보급 체제에 의해 지원받지 않는 품목의 제조.
- 6. Complete painting of aircraft.
- 6. 항공기의 완전한 팩인트 집.
- 7. Analytical, special and nondestructive testing and
- 7. 항공기, 모듈, 및 구성들을 지원하기 위한 분석적이고 특별하여 inspections in support of aircraft, modules, and components. 비파괴적인 시험 및 검험.
- F. In relating the three levels of aircraft maintenance to actual 바. 항공기 정비 3단계를 군 구조 내의 실제 조직에 관련시킨다면, organizations within the Army structure, the assignment of functions 기능 및 책임의 부여는 학기와 같은 나다. 즉, 각 기갑, 보병 및 기계화 and responsibilities would be as follows, within each of the Armor, 사단 내의 10째 이상의 항공기를 보유하고 있는 항공기 운영부때는 Infantry and Mechanized (AIM) divisions, aircraft operating units 항공부대정비를 완수할 능력을 갖출니다.

that have 10 or more aircraft will have the capability of accomplishing

AVUM. AVIM support is provided by a transportation aircraft maintenance 전투 항공 대략 소속 수송기 정비 중대가 항공중간정비 지원은 제공 company, attached to the combat aviation battalion. In the event that 합니다.
사단이 아직도

the division still has some aircraft assigned to an element that has 10대 이학의 항공기를 보유한 부대에 참당된 약간의 항공기를 보유할 less than 10 aircraft, the element could only accomplish crew chief 경우, 그 부때는 다지 항공기장 장비를 완수할 수 있고, 부가적 지원은 maintenance and additional support would be provided by the aircraft 항공기 정비 중대가 지원한다.

maintenance company. In an air assault type division, because of the 공습병 사단에서는, 관련 항공기수 때문에, 사단은 number of aircraft involved, the division has a transportation aircraft 한계의 수송기 정비 대대와 두개의 항공증간정비 중대를 보유한다.
maintenance battalion, with two AVIM maintenance companies. This

organization provides the AVIM level maintenance for all division air-조직은 모든 사단 항공기에 항공증가정비 수준의 정비를 제공한다. craft. The operating units within the division have the capability to

사는 내의 운영부터는 항공부터정비를 완수할 능력을 지닌다.
accomplish AVUM. Nondivisional operating units are also equipped to
비사는 운영부터는, 부터가 10대 이상의 항공기를 보유할
accomplish AVUM when the unit has 10 or more aircraft. AVIM support is
시, 항공부터정비를 완수하기 위해 도한 장비를 갖춘다. 항공중간정비
provided by the nondivisional transportation aircraft maintenance
지원은 비사는 수송기 정비 중간지원 중대가 제공한다.

intermediate support company. Nondivisional aviation elements having 10대 이학의 항공기를 보유한 비사다

less than 10 aircraft may receive AVUM from another operating unit or 항공부대는 박 운영부대 또는 비사단 항공공간정비 중대로부터 항공부대정비 from the nondivisional AVIM company.

를 받을 수 있다.

G. The transition to the three-level nircraft maintenance concept 사. 3단계 항공기 정비 개념으로의 전이는 최근의 전투작전 개념과 has brought aircraft maintenance in line with the latest concepts of 일시하는 항공기 정비를 가져왔다.

combat operations. It emphasizes maintenance in the Forward units 이것은 진항부대에서의 정비를 강조하며, 그리하여 thus generating a capability for increased operational aircraft on a 일일기준으로, 중가된 운영 항공기에 대한 능력을 갖출니다.

daily basis. It provides intermediate support that instead of supporting 이것은 보급 제제를 지원하는 대신 사용불가능한 항공기 또는 a supply system, now turns unserviceable aircraft or components around 구성품을 수리하여 사용자에게 복귀시키는 중간 지원을 제공합니다. and returns them to the user. The concept also expeditiously evacuates 이 개념은 또한 약전부대의 능력을 초구

unserviceables that are beyond the capability of field units and retro-하는 사용불가능한 것들을 신숙하게 후송하여 그 품목들을 직접적으로 grades the items directly to depots. Three-level aircraft maintenance 보급창으로 띄돌려 보냅니다. 3단계 항공기 정비는 전투작전과 is compatible with combat operations, is geared to handle the latest 조화를 이루며, 최근의 고성능 항공기 제제 (항공전자공학 및 장비 도함) sophisticated aircraft systems (including AVIONICS and armament), and 를 취급할 수 있도록 시설을 설계하고, 또한 인원 및 장비의 더 나온 사용을 has been instrumental in reducing costs through better utilization of 통해 비용을 감소시키는 데 도움이 됩니다.

personnel and equipment. In general, it provides the Army with a 일반적으로, 이것은 현재 및 미래의 항공기단의 realistic means of efficiently supporting the complex aircraft 복잡한 항공기 정비 소요를 효과적으로 지원하는 실제적인 수단이 되는 maintenance requirements generated by today's and comorrow's fleet of 것입니다.

IV. CONCLUSIONS

17. 경 론

aircraft.

To be determined by participants in the Logistics Workshop. 군수 연수회 상가자들이 수후 결정할 것입니다. Conclusions should be based upon the workshop presentation and 기포 의 연수 의 발표 및 보의에 기포 하여야 합니다. discussion.

### V. RECOMMENDATIONS

v. 건의사항

To be determined by participants in the Logistics Workshop. 교수 연수의 화가자들이 추후 결정할 것입니다.

Recommendations should support the conclusions. 건의사장은 결혼을 지지하는 것이어야 합니다.

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7.

ISSUE: AIRCRAFT MAINTENANCE QUALITY CONTROL PROGRAM 논 제: 항공기 정비의 질적 관리 계획

### I. INTRODUCTION

서 론

The aircraft maintenance quality control program is an essential 항공기 정비의 질적 관리 계획은 미 육군 항공기 정비체제의 한

component of the U.S. Army's aircraft maintenance system. The degree 중요한 요소입니다. 그 중요성은

of importance increases with the complexity of equipment, the depth of 장비의 복잡확, 수리 가능도, 인사 개편을 및 상급제략 지원 활동의 근접성 allowable repairs, the rate of personnel turnover, and the proximity 및 능력 등과 이불어 증가 합니다.

and capability of higher echelon support activities. The quality 진정 기리

control program is established by approved doctrine that has evolved 계획은 군사 항공 정비에 있어서의 광범위한 경험을 통하여 발전되고 through extensive experience in military aviation maintenance; each 인정된 연락에 의해 수립됩니다:

of the U. S. services have parallel programs that are based on the 미국의 각 군은 동일한 정비 관리의 원리에 기초한 균일한 계획을 same principles of maintenance management. 지니고 있습니다.

### II. PURPOSE

목 적

An analysis of the U. S. Army's quality control program for 미유군의 항공기 정비에 관한 질적 관리 계획의 분석을 통하여 aircraft maintenance will benefit the ROKA by affording an example 질적 관리가 전반적인 정비 및 물자 관리 체제의 한 중요한 흑면으로서 of organizing to insure that quality control is recognized and imple-인식 및 시행되도록 하기위한 조직의 일력를 제공합으로써 한국 육군에

mented as an essential feature of the overall maintenance and material 도움을 두게 되니다.

mánagement system.

### III. DISCUSSION

至 是

A. The U. S. Army has an aircraft maintenance quality control 가. 미유군은 항공기 정비가 업무 수항에 필요한 규정된 집작 및 program to insure that maintenance is performed to prescribed standards 효율성의 표준에 의거하여 수항되도록 하기 위하여 항공기 정의의 집의 관리 of quality end efficiency which are necessary for mission performance. 계획을 지니고 있으니다.

The Army's view is that maintenance consists of three major components. 정비는 세가지 중요한 요소로 구성된다는 것이 육군의 견해합니다.

These are performance of maintenance, production control, and quality 이 전가지는 정비, 생산관비 및 집작 관리의 수행을 말합니다.

control. Quality control activities complement those of production, 집작 관리 활동은 정산활동을 보완하며, 또한 양자는 정비 and they both constitute the overall function of maintenance management. 관리의 진반적 기능을 구성합니다.

The proper balance of production control and quality control insures 생산 관리 및 품질관리의 작정한 균형은 취대의 생산성을 이혹하고 인정 that maximum productivity is achieved and that the work conforms with 가능한 집적 료존 앤그 작업이 있지하도록 합니다.

acceptable standards of quality. However, it should be emphasized that 그러나, 질적 관리 기능은 항공기 수익류

the quality control function does not consist only of inspecting air-김영학는 깃간은 아니라는 점이 강조되니다.

craft repairs. This is an important feature of the program, but other 이것은 본 계획의 중요한 특징입니다. 그러나 다른 독편도

aspects are equally important. They include the following: 동등한 중요성을 지되니다. 그 주면들은 하기와 같습니다:

- 1. Insuring that test, measuring and diagnostic equipment is
- 1. 검사, 축정 및 점검 장비의 눈금이 적절히 조정되어 있는 가를 properly calibrated. 확인한다.
  - 2. Initiating actions to improve existing maintenance methods.
  - 2. 기존 정비방법을 개선하기 위한 초치를 취한다.
  - 3. Maintaining a technical library; and insuring that maintenance.
- 3. 기술 도서관을 유지하여, 정비 요현이 해당 기술 고범 및 회보를 personnel are familiar with appropriate technical manuals and bulleting. 숙지하도록 한다.
  - 4. Incorporating new inspection techniques and escablishing
- 4. 신 검열 기술을 모입하고 신장비 절차를 수립한다. procedures for new equipment.
  - 5. Collecting and analyzing equipment deficiency data and
- 5. 장비의 교접 자료를 수집 및 분수하고 <mark>퍼지운 부대의</mark> evaluating complaints from supported units. 애로사항을 평가한다.
  - 6. Exercising aircrait configuration control and the appli-
- 6. 항공기 외부장착 관리 및 정비 작업 명령서의 적용을 시행 cation of Maintenance Work Orders. 한다.
  - 7. Investigating equipment deficiencies.
  - 7. 장비 괴점을 조사한다.
  - 8. Estimating repair costs and levels of repair work.
  - 8. 수리 비용 및 수계작업의 수준을 평가한다.
  - 9. Inspecting facility layout and shop management practices.
  - 9. 시점 백차 및 작업장 관리 실제를 점검한다.
  - 10. Inspecting serviceable and unserviceable components for
- 10. 보존 및 포장을 위하여 사용가능 또는 사용 불가능 구성품을 preservation and packaging. 집건한다.

- 11. Inspecting maintenance records and documents.
- 17. 정비 기록 및 문서들을 점검한다.
- 12. Advising the commander on quality control program effectiveness.
- 12. 질적 관리 계획의 효율성에 데하여 지휘관에게 조언한다.
- B. Unit Maintenance organizational structures will vary according 나. 보대 정비 조직구조는 전반적인 정비구조내에서의 능력, 업무.

to the strength, mission, equipment, and location within the overall 장비 및 외치에 따라 다양했다.

maintenance structure. However, one characteristic is common: The 그러나, 한가지 특성은 금통이다:

three major components of maintenance are on the same level so that 정비의 세가지 주요 요소는 동등한 수준이며 그중 어느것도 다른 것에 none of them are subordinated to the other. A typical maintenance 종속되지 않는다. 건경적인 정비 중단

company organizational chart is attached as Inclosure 1. In this 편제 도표는 불첩 1로써 접부되어 있다. 본 에에서는,

example, maintenance is performed by three placoons which are high-정비가 중점적인 3개의 소대에 의해 수행된다. lighted.

C. Staffing for the quality control office waries according to 다. 결적 간략 사무소의 인사 배치는 장비 및 암투의 종류에 기초한 prescribed manpower tables that are based on types of equipment and 규정된 인력표에 의거학에 말라진다.

mission. Where sufficient manpower is authorized, the office will be 충분한 인력이 인가되는 경우, 그 사무소는 조-7 기술 검열 supervised by an E-7 Technical Inspector Supervisor. The technical 감독감에 의해 관리된다. 기술 금일단은 inspectors will be E-6's who are specialized in the maintenance and

특정 항공기 또는 구성기관 정비 및 검열에 특기를 가진 과 5 등의 된다. inspection of specific aircraft or component systems.

### IV. CONCLUSIONS

71 2

To be determined by participants in the Logistics Workshop.
군수 인수회의 잡가자들에 의하여 추후 결정될 것입니다.
Conclusions should be based upon the Workshop presentation and 김본은 연수회 발표 및 토의에 기계하여야 합니다.
discussion.

### V. RECOMMENDATIONS

2 اح

To be determined by part to in the Logistics Workshop. 군수 건수의 참가자들네 의শ에 추후 급정된 것입니다. Recommendations should support the conclusions. 건의 사항을 급론을 뒷박심하여야 합니다. ISSUE: AVIATION GROUND SUPPORT EQUIPMENT

는 제: 항공 지상 지원 장비

I. INTRODUCTION

I. 서 론

Aviation Ground Support Equipment (AGSE) is that equipment required 항공 지상 지원 장비는 항공기 정비에 소오되는 장비입니다.

to accomplish aircraft maintenance. The projected transition to new, 한국육군의 ベ롭고 보다 정교한

more sophisticated, aviation systems in ROXA will result in a tremendous 계획된 항공기 기관으로의 진단은 항공 지상 지원 장비의 막대한 중가를 increase in ACSE equipment. Proper management of this equipment is 초 백합니다. 본 장비의 직접한 관리는 지원을 확보하기 extremely important to insure support so that aircraft are maintained 위해 지구히 중요하기 때문에 항공기는 고도의 운영택서로 정비됩니다. at a high state of operational readiness.

### II. PURPOSE

### II. 목 적

To inform Republic of Korea Army Aviation logistics officers of 한국육군 항공 군수 장고에게 필요 불가결한 본 장리가 직접히 관리 the significant role of AGSE and actions they may consider taking to 되고 있는가 확인하기 위해 고려해야 할 항공 지상 지원 장비의 종대한 insure that this vital equipment is properly managed. 역할 및 조치를 주지시키기 위한 것입니다.

### III. DISCUSSION

### III. F 의

A. AGSE includes all items of tools and equipment required to 가. 항공 지상 지원 장비는 취해진 여건 속에서 운영되는 항공학적 maintain aeronautical systems and/or subsystems operational in their 기근 및 소기관을 정비하는데 소요되는 도구 및 장비의 전 품목을 포함 environment. AGSE is divided into five functional sub-areas: 합니다. 항공지상지원장비는 5개의 기능별 소문으로 나뉘어집니다:

- 1. Ground power units: Equipment which supplies electrical
- 1. 지상 전원 장비: 항공기역 전력을 금급하는 장비. power to an aircraft.
  - 2. Alcoraft servicing: Equipment to repleaish aircraft with
- 2. 항공기보급 장비: 석유, 연료, 윤활유, 탄약, 산소 및 기탁 petroleum, oil, lubricants, ammunition, oxygen and other consumables. 소모품은 항공기에 전보급하기 의한 장비.

Also, includes cleaning, deicing and preheating equipment. 또한, 세취장박, 제빙장박 및 가동 진,열을 먼저 가박는 장박을 포함하니다.

3. Test, measurement and diagnostic equipment (TMDE): Equipment

항공기

to inspect and test aircraft systems. 기관을 걸일, 시험하기 위한 장비.

3. 시험, 측정 및 점검 장비:

- 4. Ground handling equipment: Equipment to move, jack of
- 4. 지상 취급 장미: 지상에서 항공기를 이동시키기나, secure aircraft on the ground. Also, includes coists, slings and trans-들어금리기나, 보호하기 위한 장치, 또한, 강동기 구성들을 이동시키기 porters to move aircraft components. 위한 기중기, 맥마는 줄 및 운반기를 포함합니다.
  - 5. Maintenance facilities: Equipment and structures associated
- 5. 정비 시설: 구납고/ 때피소, 도구 및, 공장세트, with airfield and shop maintenance operations such as hangars/shelters, 밤진기, 압축기 및 작업대와 값이 비행장 및 공장 정비 운영에 관련된 tool kits, shop sets, generators, compressors, and work platforms. 장비 및 건물.
- B. Aviation commanders, maintenance officers and maintenance 나. 방공 사령관, 정비장고 및 정비요원은 자주 항공지상지원장비의 personnel frequently overlook the significance of their aviation ground 중요집을 감독합니다.

support equipment. Poor aircraft operational ready table are too 항공기 운영 준비율이 저조한 것은 거의 토급제적, frequently blamed on the supply system or a shortage of maintenance 국은 중에 모원의 부족에 기인합니다.

personnel. Rare is the commander sho considers the effect of AGSI 정비 유영에 관한 항공지상지원장비의 결과를 고력하며,

on his maintenance operations and implements an adequate ACSE operation 용본단 항공지상지원장비 운영 및 정미 계획을 이행하는 지휘관은 모릅니다. and maintenance program. When an item of ACSE is not available or it

operates improperly, alternate and less efficient means must be sought 부러졌지 운영당 시, 그 종류의 이용되는 임무를 완수하기 위해 막체수단

to accomplish the task for which that item was designed. Nonavailability 및 답 효용적인 수단이라도 보색하여 합니다. 왕류기 간인

항공지상지엄장비 품목이 가운치 뜻하더나

of an aircraft towing vehicle results in the necessity to remove air-차당이 이용 가능지 못할 시, 항공기를 이동시를 때마다 항공기 수비증은

craft repairmen from assigned maintenance jobs each time an aircraft 소속된 정박 업무르누터 이동시킬 땀의가 생기게 됩니다.

must be moved. Only one of four auxiliary power units operating in a 장비 직원부터 단역서 운영되는 4기의 보조 전원당비 중

maintenance support unit may result in less aircraft becoming opera-기계 장비단을 운영학계 되면 4개의 장비를 운영할 때보다 정책진 날에 tional on a given day than possible if all four were operating. 데 적은 수의 항공기를 운영학계 합니다.

Example after example can be cited which will similarly indicate the 항공지상지원장되의 적절간 관리, 운영 및 유지의 중요성을 나타내는 importance of properly managing. operating and maintaining AGSS. 여운은 이글과 갈습니다.

C. The importance of AGSE becomes even more apparent when we 다. 20 데이 UH-IH 데디션 처음 모유하고 있는 미욱근 공과 급속구의 증액 review the number of AGSE Items and their dollar value in the U.S. (독립) 네의 항공지상적인장비의 수 및 그 앞서 가지를 급보한 때.
Army Assault Helicopter Company (Separate) which concains 20 UR-III 항공지상적인장비의 중요성은 미유 본명 회장되는.

helicopters. There are over 180 line items (one or more in quantity, 550,000 당리를 축가하는 180개 이상의 종목(고 안에 있어서 at a cost exceeding \$550,000. Attack helicopter, medium lift holicopter, 1개 이상)이 있음니다. 공격 젤리콥터, 중청 수송 템리클터 및 and aviation support maintenance units will contain even more items at 항공지원정비 부탁는 상당한 당리 가지를 지닌 이 많은 골목을 보유하고 a much greater dollar value.

A STATE OF THE STA

D. The number of items, their cost and importance in malataining 라. 등부의 수량, 비용 및 고도의 항공기 운영 준비 액션공을 유지하는 a high aircraft operational readiness rate makes management of ACSE 중요성으로 인하여 항공지상지원장비의 관리는 항공군수관리에서 중대한 a critical item in the management of aviation logistics. The following 비중을 자자하게 됩니다. 다음은 discusses bey areas of interest in U.S. Army ACSE management. Analysis

discussed bey areas of interest in U.S. Army AGSE management. Analysis 미우근 항공지상 지원장비 관리에 있어서의 주요 관심 분야에 관한 것입니다. of these liens will provide the ROAL points they may consider in their 이러한 골목의 분석으로 한국육군 항공군수지는 항공지상지원장보를 정보, development of an adequate system to maintain and operate AGSL. 운영학기 위해 충분한 기관의 개선이 고려된다는 것을 알 수 있습니다.

1. Accountability and Responsibility: There is no repairman

기는 경우 및 책임:

미육군 내에는 항공지상

In the U. S. Army dedicated solely to the repair of AGS로 nor is chere a
지원장비만을 수리하기 위한 수리공이 없으며 또한 어떤 부탁에도 지정된

designated TOSE AGSE section/platoon in any unit. Instead, WSE is
편제장비료상 항공지상지원장비 반/소백가 없읍니다. 대신, 항공지상 직원

docentralized to the appropriate section or platoon in the unit 사건의

장비는 이를 필요로 되는 임부를 가진 부탁되의 책당 발 목은 호텔에

has a mission need for it. This decentralization can result in a losa

of visibility of these assets and coasequent orbitims in a coasequent orbitime orbitims in a coasequent orbitime orbitime.

본 산된 낙약.

이렇게 논산학편 작무 및 책임을 위적하는데

accountability and responsibility. Here are some of the key methods 여기에 된 참비의 정비를 대한 책후

we use to insure accountability and responsibility for this equipment 및 작의을 확실히 막기 위해 우리가 사용하고 있는 몇가지 주요 방법을 is main:ained.

제시하고 작 합니다.

a. Hand receipts are used to insure accountability and respon-가. 보급관으로부터 된 장비를 책임지는 개인에게 장비가 지급되었을 sibility for this equipment is passed from the supply officer down 때 본 장비의 책무 및 책임용 확실히 하기 위하여 임신 수령증을 사용

to the individual responsible for this equipment. When it is not 하나다.

clear which section or individual should be accountable, the commander 분명지 않은 경우 지휘관이 이렇 결정합니다.

makes the determination.

b. Paint and marking tools are used to mark each item, including 나. 손도구를 포함한 도장 및 표식도구를 사용하여, 각 급목의 hand tools, with an identifying mark to indicate who is accountable 적임자를 나타내는 인식표를 가 불목에 표시합니다.
and responsible for each item.

c. Inventories are conducted on a scheduled basis, daily, monthly 다. 출납책임을 분명히 하기 위하여 계획에 따라, 일병, 월일, 본기별로 and quarterly to insure accountability. Individuals missing tools may 지고조사를 실시합니다. 모구를 분실한 계인은 그에 be required to pay for them. A daily inventory also helps to eliminate 해당하는 돈을 서울하게 된다. 일일 지고조사를 행받으면써 항공기 장기 foreign object damage after maintenance on the aircraft. 후 의부 부족물 존심을 방지하는 건을 돕습니다.

2. Maintenance: As mentioned about, there as to single repairman

2. 정비: 상기 서울한 바와 값이 미유군에는 항공지상지원

in the U. S. Army for AGSE. Aircraft and component repairmen most 하기를 위한 단일 수익공의 있습니다. 항공기 및 구성을 수익공은 계한된 frequently perform daily preventive maintenance such as cleaning and 부탁 수익는 물론 세탁 및 급유와 값은 일일 여방 정비를 최대로 자주 lubrication as well as limited organizational repair. Organizational 심시한다.

repair and higher levels of repair of AGSE are performed by the 항공지상지원장박의 고도의 수익는 다음과 값이 주목기별도 싫시한다. following occupational specialties.

- a. Electrical Devices Repairman -- MOS 355.
- 가. 진기 제품 수익공 -- 군사주목기 358
- b. Calibration Specialist -- MOS 35H.
- 나. 징명도 측정 기습병 -- 군사주속기 35세
- c. General Purpose Power Repairmen -- MOS 52B.
- 다. 일반 두직용 전원 수익당 --군작주목가 52년
- d. Power Generator Equipment Repairman -- NOS 52D.
- 띡.. 발전기 장비 수리공 -- 근사주두기 52의
- e. Engine Equipment Mechanic -- MOS 623.
- 마. 연진 장비 기계공 -- 근식투교기 62B
- f. Automobile Repairman -- MOS 63H.
- 박, 자동차 수익공 -- 군사주휴기 03 H

Maintenance of this equipment is the greatest problem we have in the 본 강비의 장비는 항공지상지원장비의 관리에 있어서 위비가 당된한 가장 management of AGSR. An action to dreate an occupational specialty for 중 대한 문 케이다. 항공지상지본장비의 정비를 위해 주다기를 신설하기 the maintenance of AGSE has been interaced in the No. 8. Arm, out is 위한 조치를 미유문 에서 주도 했었으나 그를 지원하는 제당 신원에서는 지료의 temporarity being held in abeyance because of a tack of appropriate 부족으로 임시작으로 의견상대에 인용되다.

The same of the control of the same of

man-hour data to support it. Wi william a rest was a special collection (14) 사기의 경기 경기를

trained and responsible for the maintenance of this equipment would 많는 수익공의 많은 도용용 주리막고 생각하니다. be very beneficial.

- 3. Training: No formal school training is conducted on the 3. 콘턴: 본 장비의 장비에 대한 어떠한 정구 학교 분련도 maintenance of this equipment and very little training is conducted on 심식되고 있지 않으며 그 적절한 용도에 따라 흔렸도 거의 심시되고 있지 its proper use. We do not believe that this is the best solution. The 우리는 이것이 최신의 학교적이라고 믿고 있지 않습니다. 않습니다. creation of a trained ACSE repairman, as mentioned, would cause us to 상기한 박약 골이 훈련된 항공시상지원장비 수리공을 확보하려면 정규의 conduct a formal AGSE maintenance course of instruction. In the mean-항공기상지원장비 정비교육과정을 교육시키야 할 것입니다. 한편, 우리 time, our personnel learn the use and naintenance of this equipment on 요원은 십시 업무용 등 백분 장비의 용도 및 성부를 박위고 있습니다. the job.
- 4. Repair Parts: Unfortunately, many of our AGSI items requiring 4. 수익부표: 실행기도 수익부품을 요하는 많은 유익의 항공지상 repair parts were limited production items, bought directly from manu-지원자가 품독이 제한된 생산품목이었으며, 베르남 진행 중 급기회 facturers to support our rapidly increasing aviation force during the 중가하는 항공부대를 지원하기 위해 제소입자로부터 직접 구입한 것입니다. war in Vietnam. Logistics support planatus was often incomplete and 군수지원계획은 중종 불통분가였고 유리는 짧요한 모든 we are frequently experiencing difficulty in equipms all necessary 수익부품을 획득하는데 따꾸 어떡들은 겨고 있습니다.

한국육군 군수오현은 항공지상지본장인에 대한 수지부급 repair parcs support for AGSV. 지원에 특히 공접을 두 역약 할 것입니다.

- 5. Publications: Similarly affected by our acquisition procedures,
- 5. 발간몸: 수리부품의 취득 접자와 마찬가지로, 항공지상지원 as were the repair parts, operation and maintenance manuals for our 장비의 운영 및 정비고범은 민간 또는 군 당국이 발간합니다.

AGSE are a mix of commercial and military publications. Many are not 백부순이 신규

available through publications channels and must be obtained by copying 발간은 통학에 조합되지 않고 기존 발간문을 투사하여 조합되고 있습니다. those already in existence. All are extremely important since all 모든 개인이 작업 중에 본 장비의 논영 및

individuals must learn the operation and maintenance of this equipment 정비를 숙지했다 하므로 모든 발간들은 백위 중요한 약값을 합니다. on the job.

#### IV. CONCLUSIONS

N. 3 2

To be determined by participants in the Logistics Workshop. 근수 연수회 참가자들이 추루 급정할 것입니다.

Conclusions should be based upon the Workshop presentation and 급론은 연수의 발표 및 토의에 기조하이야 합니다. discussion.

#### V. RECOMMENDATIONS

## V. 거의 사 항

To be determined by participants in the Logistics Workshop. 군수 인수의 참가자들이 추후 결정한 것입니다. Recommendations should support the conclusions. 건의사항은 글본을 지지하는 것이어야 합니다. ISSUE: PHASED MAINTENANCE

는지: 안기적 정비

I. INTRODUCTION

I. 서 문

Phased Maintenance was implemented in Army Aviation to reduce 한계적 장비는 신리도, 안전도, 또는 일부 성취도에 약영향을 끼칠이 maintenance costs without adversely effecting raliability, safety, 없이 장비 비용을 감소시키기 위벽 육근항공 분약에서 실시되었으니다. or mission accomplishment. It reduces scheduled maintenance, re-이는 계획 정비를 격감시켰으며 실용성을

sulting in greater availability. Scheduled maintenance actions 나짜냈음니다. 계획 정비 조치는 정기 집법을

have been revised, resulting in scheduled inspections being more 좀 더 균입하지 택본하고 정비부탁을 줄이면서 제정되어 왔을니다. evenly distributed, elsing the maintenance burden. In addition, be

덧붙여, 항공기가,

cause the aircraft is divided into areas, the machanics performing / 어떤 본야로 분합되어 있으므로, 집집 입무를 수행하는 경비사는 또 다른 the inspection can be less experienced than under another system. 항공기 제제에는 경험이 부족할 수 있을니다.

for he can learn the area assigned to him in relatively short order, 외나바크, 정비사는 상대적으로 단기간공안에, 항공기 전반에 되겨 rather than learn the whole aircraft. It also will result in a 배우기르다는 그가 백속된 본약을 백을 수 있기 때문이다. 또한 부를 reduction of spare parts costs.

비용의 강소를 가져올 수도 있을니다.

II. PURPOSE

r. 목 정

To reduce the maintenance costs, increase the availability and 신뢰도, 안진도, 또는 임무 성취도에 약영향을 끼지지 않으면서, reduce the spare pairs cost for ROWA without adversally affecting 정비 비용을 강소시키고 가용성을 중대시키며 또한 한국국군에 대한 reliability safety or mission accomplishment.

부동 비용을 감소시키기 위합입니다.

III. DISCUSSION

III. 보의

A. Analysis. Phase Maintenance is a program which uses failure 가. 본 석. 단계의 정비는 점검을 받아야 할 항공기의 부품들을 rate data from historical files or a sample data collection program 및 점검을 받아야 할 되지 간격을 급점하기 위하여 사력 기록된 또는 표는 to determine which items on the aircraft should be inspected and the 통계수집계획의 고장을 자료를 사용하는 것입니다.

optimum intervals at which they should be inspected. To do this,

이름 위하여,

a computer program called 'Model for the Analysis of Vehicle
"차량과사제제 본석을 위한 모듈"이라는 컴퓨터 드로그램이 사용됩니다.
Inspection Systems" (MAVIS) is used. At the present time, it is used
현재로서는, 일일정검을 제외한

to replace the present Preventive Maintenance Services exclusive · 현재의 여방 집비근무를 대부하기 위치 사용되고 있습니다.

of the Daily Inspections. Aircraft are scheduled in for inspection 항공기는 검사를 위백 단구별(공 수의 비행

in "phases" (So many flying hours). These phases vary in time for 시간)로 계획되어 있을니다. 이러한 단계는 각 항공기 씨리즈

each aircraft series, decermined by the failure rate data. Not all 별로 그 시간이 따르며, 고장은 자료에 의하여 결정됩니다. 그 단계 items are inspected at each phase. A certain number of phases com-따다 모든 딸목이 집결을 받는 것은 아닙니다. 및 국의 단계가 하나의 prise a cycle. When a cycle is completed, every item on the air-싸이클을 구성합니다. 한 싸이클 이 종료되면, 집결을 요하는 항공기의 craft requiring inspection is inspected at least once. Then the 모든 부들은 최소한 일회의 검사를 받을니다. 이렇게 하여 cycle is completed. (i.e. The inspected at 2007/2007 are completed.

cycle is completed. (i.e., The UN-LD/H is on a LOO/800 system. 한 싸이클의 종료립니다. (즉, UN-1D/H의 경우는 100/800케이입니다. A phase inspection is done every 100 hours, and after a cycle of 반대적 기사는 및 100시간파다 십시되며, 800시간에 한 싸이콥이 끝나고 800 hours, it is repeated.) The few items that have a history of 그것이 다시 반복되면 됩니다.) 100시간 이학의 사고사례를 가지고 있는 failure of less than 100 hours are placed in Special Inspection. The 일부 품두은 독립검사를 받게 됩니다.

inspections are all performed at AVUM. This philosophy was tested 검사는 항공부터성비로 수행됩니다. 이러한 항공은 74-75년도에 on the UM-1대 at Ft. Campbell, KY in 1974-75. It is/will be applied 컨터키주의 캠블 오세에서 UH-1대에 대해 검증되었을니다. 이는 현재 to the following directait presently in an operational status: UH-1D/H, 가능 상태에 있는 학기 항공기에 대해 작용되어 또 작용될 것입니다: AH-1, OH-53, OV-1, U-21/NU-21 and H-47.

UH-1D/H, AH-1, CH-58, CV-1, U-21/RU-21 % H-47.

- B. Test results of the program have shown:
- 나. 그렇의 것을 결과는 마음마 감을 니다:
- 1. Reduced Maintenance Manhours per Flying Hours (MMH/FH).

AND THE PROPERTY OF THE PROPER

- 7. 백 비행시간불 정비연시간의 감소
- 2. Raducad apana parts consumption.
- 2. 부품소 일의 각소.
- 3. Increased availability.
- 3. 가용성 좀데.
- 4. Reduced Maintenance reporting.
- 4. 정박 보고의 강소.
- 5. Smoothing of the Maintenance workload.
- 5. 정비 업무량의 순조.

#### IV CONCLUSIONS

### 17. 君 圣

To be determined by participants in the Logistics Workshop. 근수인수의 압구자들이 추구 결정할 것입니다.

Conclusions should be based upon the Virtualup presspiration and 길은은 연수의 글로 및 교회에 기술하더야 합니다.

### discussion.

- V. RECOMMENDATIONS.
- V. 긴의사항.

To be determined by participants in the Logistics Workshop.

군수 연수의 참가자들이 추후 결정할 것입니다.

Recommendations should support the conclusions.

건의사항은 결론을 지지하는 것이어야 합니다.

ISSUE: ARMY OIL ANALYSIS PROGRAM (AOAR)

는 지 , 육국 유류 본석 기회

KOITOUGCATKI .T

서 론

The Army Oil Analysis Program (ADAZ) is a program used as a diag-으문 유무 문식 기회은 연진, 변속장치, 변속기 및 수압적정장치의

mostic tool to aid in determining the internal wearing condition of 내부 막고 상태를 걸중하기 원한 접접도구로서 작용되는 계획입니다.

engines, cransmissions, genrboxes, and hydraulic systems. Oil 유류

analysis is mandatory for all Army aircraft. 관적은 드류 우근 항공기에 때한 의무사항입니다.

II. PURPOSE

목 적

To provide ROKA with information partaining to a DA support 한국내의 직접한 항공지원을 제공하기 위해 끊으러다고 생각되는 system desired recessing to provide adequate aviation support in 요근성 지원 체계에 관한 정보를 한국 육군에 제공하기 위합입니다.
Koran.

III. DISCUSSION

트 의

A. Analysis. Within the system microscopic metal particles 가, 는 석. 장치내에서, 작동하는 기계부급의 마찬에 의해

are produced by friction of the moving mechanical parts. These 기세한 급속조각이 생깁니다. 이러한

microscopic metal particles enter the oil stream and are uniformly 이 역한 급속조각은 흐르는 유통속으로 흡수되어 근임하기 온탈유

dispersed and suspended throughout the lubrication oil systems. 장시에는 간되고 정착되니다.

Spectrometric Oil Analysis is based on the Ability to 스타트램 논성은 본식의 결과 및 기탁 오스들과 유류가 correlate analysis results and other factors with the wearing 물은 부종의 마모장맥화 연관시키는 능력에 기초학교 있음니다.

condition or the oil-worked component. This is accomplished by analy-이는 작용된 유유용 소위트범

ing spectrometrically the used oil and the tate polation of the 본식하고 본석 근과와 기바 자료를 기찬값으로써 기존성장니다.

analysis results and other data. The nate of metal build-up, the 급속 병성실, 나타난 급속조각의

amonat of metal partiales present, worst concentration, the ratio 양, 골수집중, 골속님을, 여근의 유용 고관으로부터의 시간, 건부품 of merals, the hours since the last oi! change, the hours on the 또는 수미주로부터의 시간, 먼지나 급객의 유류 진동도등, 모든 component since new or everhaul, the degree of oil concentration 사항이 반드시 고떡되어야 합니다.

with dirt or water all must be considered.

Each system exhibits a metal concentration history of 가 장기는 부품의 충부에 막짝 독유의 급속 권용에 관한 its own, depending on the type of component. Generally, the 사력도를 부족합니다. 의반석으로,

metal concentration histories of all similar models can be con-모든 유사한 모델들의 금속집중에 관한 사례표는 값이 고떡될 수 sidered together.

Wor an oil analysis program to operate offectively all 유류 본식계획을 보다적으로 운영하기 위해, 관련된 모든 levels involved must perform adequately; that is, 자신에서 임무를 적절히 수행해야 합니다. 즉,

- t. The sample rust be taken properly.
- 1. 포신은 적장의 취합니다.
- 2. The sample must be identified properly.
- 2. 프론은 직접기 표기되니다.
- 3. The sample must be sent to the laboratory promptly.
- 3. 표본은 신속끼 싫험하면 번니야 합니다.

- 4. The sample must be an lyzed correctly.
- 4. 표본을 정확하게 분석 주어야 합니다.
- 5. The anlaysis results and other tactors must be interpreted
- 5. 본석 결과 및 기탁 요소금은 직정이 해석하여야 합니다. properly.

Fallowa to perform any of the above within the acceptable limits
장기 사랑동, 역사한 사항이라도 역용가능한 한제되었어 수행되지
will result in rushing some of the abnormal wearing conditions.
안으면, 고등의 비중당점 라드상력을 간자하게 될 것입니다.

Any ACAP should be designed so that the above program require-여학간 육교 유류 분석계획트 - 장기 계획소요를 충족 박도록 작성 monts can be met. The established program should be such that the 학이야 합니다. 수립된 계획은 야전에서 실험심 반유까지 (즉, 표본

field to laborator' sample response time (that is, the time between 전시사이의 시간, 교본의 이동시간, 본식시간, 본식경과 핵심시간 및 taking of the anaple, trensient time of sample, time to enalyze 사용자와 집투자는 시간 의 시간은 유류문식계획 실험실에서 취호로 and interpret analysis results and time required to contact the 박정상 아무를 탐지간 팩로부터 부름의 그장이 실제로 발생할 때 user) be less than the time, in flight hours, from the CAP laboratories 파지의 박행시간보다 주도록 작성된 것이어야 합니다.
first detection of abnormal wear until component faiture actually

occurs.

B. Summary. Used property. Oil Analysis can be an important 나. 요 약. 직접이 사용된 유부 분석은, 전 기관 또는 기계 diagnostic tool to diseas wearing parts value can be reprired or 장미에 파무적인 고장이나 는장은 일이기 전에 수선된 수 있거나. roplaced before they cause diseasophic factors or change to the 계세화 수 있는 박모 부등을 잡지하고 이렇게 들으로서 사고, 부상

ensire assembly or mechanical system, thereby preventing accident, 및 참사를 예방할 수 있는 중요한 점검도구입 수 있을니다. injuries, and even facalities.

Cost effectiveness of AOAP for FY 78 shows a cost avoidance 78피게연도의 육군 유류 분석 계획의 비용 효과성은 계획의 to program cost ratio of 20 to 1.

비용에 있어 20 : 1이라는 비용질감을 나타내고 있음니다.

IV. CONCLUSION

김 론

To be determined by participants in the Logistic Workshop. 군수 인수의 참가자들이 추후 결정할 것입니다.

Conclusions should be based upon the Workshop presentation and 같은은 연수의 발표 및 토의에 기초하여야 합니다. dis_ussion.

## V. RECOMMENDATIONS

건의사항

To be determined by participants in the Logistics Workshop. 군수 연수의 참가자들이 추후 결정함 것입니다.

Recommendations should support the conclusions. 건의 사항은 결론을 지지하는 것이어야 합니다. 도 수 대 수 최 3 rociettes koskeins 1420 Maintenance Training, Other 정비 본 면, 기탁 TSSUE: FORWARD ARMING AND REFUELING POINT 는 제: 전 방 부 장 및 매급 유소

I. INTRODUCTION

4 8

The Forward Arming and Refueling Point (FARP) provides a temporary 진망 구장 및 제급유호(FARP) 는 부대 전투 근무지원 지역보다 작건 facility organized, equipped and deployed by an aviation commander to 지역에 근집한 위치에 있는 비행기에 대한 재급유 및 재무장을 위해 항공 refuel and rearm organic aircraft at a location closer to the area of 사명관에 의해 근심되고, 장비를 갖추고, 전계된 일시적 시설을 제공합니다. operations than the units combat service support area. The objective 전방 무장 및

of the FARP is to increase aircraft time on-station by reducing turn-제급유소의 목표는 제급유 및 재무장을 위한 귀환시간을 단축함으로써, around time to refuel and rearm. The FARP is most applicable to the 현지에서의 비행시간을 확대하는데 있습니다. FARP 는 공격 헬리큐터 증대 attack helicopter company and the nit cavalty troop. 및 헬리콘데 무장 경찰대에 획대로 작용됩니다.

II. PURPOSE

무 각

The FART concept could provide ROKA aviation a more effective 전망 무장 및 지급유소 개념은 대한민국 육근 항공부 대에 한층 attack and scout helicopter combat capability. While this example 학자적인 공격 및 정한 헬리큐터 전투 등록을 제공합니다. 본 실례는 relates directly to U.S. Army aviation operations, an interpretative 미숙군 항공주진과 직접 관련이 있는 것이나, 비혹 약간의 수정이 필요 analysis may identify a similar need in the ROKA, although some revision 하지만 한국 육근 에서도 동일가게 필요성이 있다는 것이 본석을 통해서 may be necessary. 할인되었으니다.

### III. DISCUSSION

또 의

A. Mission: The FARP provides fuel and ammunition necessary for 가. 임 구: 전방무장 및 제공으로는 진부시 무장정찰 및 공격 the employment of air cavalry and attack helicopter maneuver units in 헬리古의 지동부대의 교원을 위해 필요로 하는 연구 및 한약을 제공합니다. combat. Specifically, the FARP will permit at least a mix of five

투히, 전방 무장 및 제공유소에서는 최소한 5 때의 공격 헬리콤적 attack and three scout helicopters to simultaneously, rapidly rearm 및 3 때의 경찰 헬리콥터를 이 동시에, 신축이 제무장 및 제공유 발을 수 and refuel, which permits these units to bring maximum pressure to 있으기, 당부대를로 하여군 귀환시간을 단독시키고 현지에서의 비행 bear on the enemy by reducing turnaround time thus optimizing avail-시간을 중 때시장으로써 최대의 가공 차력을 보유하고 쥐에게 최대 압착을 able firepower "Trough increased time on station.
가하드류 합니다.

B. FARP's are normally temporary facilities, transitory in

나. 전방 무장 및 제급유소는 및반적으로 잠정적 시설이기, 사실상 nature, and established for a specific duration and mission. The FARP 일시적인 것이고 투정기간 및 임무를 위해 설치된 것입니다. 전방 무징 concept requires that the attack and air cavalry helicopter teams be 및 제급유소의 제념으로는 공구 및 무장정찰 헬리클러 반들이 파 반당 10분 able to manauver into and out of the FARP in less than 10 minutes per 이내에서 전방 무장 및 제급유소 네위로 기능할 수 있어야 합니다.

team. Equipment is being developed to achieve this goal. Currently,

본 목적을 성취하기 위해 장비를 개발 중에 있을니다. 일반적으로, refueling can be done in about 5 minutes and rearming in about 20 to 제곱유는 약 5분 이내에서, 재무장은 약 20분 에서 30분 이내에 수행될 수 30 minutes.

있을니다.

C. Establishing and Operating the FARP:

다. 전탕 무장 및 직접유소 성격 및 운영:

- 1. Establishment: Ideally, the FARP should be located in a
- 7. 설 시: 관심상, 전함 부장 및 재급유스는 주의 목표 position to prevent enemy targeting. They are established by the 에서 벗어난 곳에 위지하여 합니다. 전함 부장 및 재급유소는 상급 ettack helicopter companies and nic cavalry troops on a mission basis 지원사명부 대대, 여란 또는 사란 의 건방 약진 노종 대와 유사한 near the forward field trains of the higher support hadquarters the 임무물 기으로 공격 설립을 때 등대 및 설립을 때 부장 정찰대에 의해 설치 battalion, brigado or division. Attack helicopter roar field trains 답니다. 공격 설립을 때 후망 약건 노종 때는 are normally located in the division support area. A refueling and 일반적으로 자란 직원 지역내에 의제합니다. 작산의 소유주에

archer 기간 기는 기구에게 득기합니다. 기간의 소유수에 rearming capability will be required in this location as well, regard-관계없이 제공유 및 지구장 등력이 이 지역에 필요합니다.

lass of who owns the assets. It should be swallable for use 24 hours 1일 24시간 이용압수 있도록 적급유 및

a day to provide refueling and rearming support. It is a backup source 재무장 지연을 제공하여 합니다. 건강 200 의 이동시,

of supply when the forward FARP is moving, temporarily out of scock or 임시적 제고 급접시, 도는 전부 등 FARP가 막피된 시에는 본 노동 대가 destroyed by combat action. Consider the following when establishing 지원을 합니다. FARP를 검칙시, 학기사항을 축고하십시오:

a FARP:

- a. Distance to, and the stability of the PSSA.
- 가. 전투지역전만으로 부탁의 기리 및 안당성.
- b. Required time on-starion.
- 나. 현직 소요시간.
- c. Security coquimements for the FARP.
- 다. 건강 무장 및 적급유소를 위한 경기소요.
- d. Enamy ability to destroy the CARP with Language time.
- 다. 간접탁별으로 PARP 를 국내시킬 수 있는 찍의 능력.

- e. Availability of adequate road networks.
- 마. 음분한 도로 맑의 가용들릭.
- f. Distance between the PARP and the nearest class III and V
- 바. 건방 무장 및 제공유소 와 취기 제3종 및 제3종 보급소간의 supply points.

거리.

- g. Command and control lequirements.
- 사. 지위 및 등제 소요.
- h. Proximity to the main supply route (MSR).
- 아. 주 보급선각의 근건.
- i. Coordination with the logistical effort of higher units.
- 자. 상급부대의 군추지원 느릿과 협조.

It is intended that the FARP will be established using surface trans-비료 특징 상황하에서는 비행기 수송에 의해 전방 무장 및 잭급유소를 실시 portation, although it may be established under certain situations by 짧지하도, 지상수송을 통해서 전방 무장 및 잭급유소를 설치할 생각입니다. air transport. Locate the FARP where equipment and helicopters can 작연 및 인금 위장적 의법, 공증 탈지로 부터 장비 및

be kidden from aerial desection by natural or man-made camouflage. 헬리콥터들을 은폐할 수 있는 장소에 TARP의 위치를 장하십시죠.

The use of tree lines and wooded areas where vegetation is thick, good 식물이 무성하고 출출한 백수로가 존재하여 전송적 산개를 위한 종분단 drainage exists and there is adequate room for tactical dispersion, 공간이 있는 나무가 음상한 수종지역을 이용하는 것이 무엇보다도 중요 should be of primary importance. Argood place for the FARP is in or 합니다.

near towns and villages. Relicopters can either be placed to structure.
마음 및 그 부근입니다. 클리큅릭는 경동내에 위치시키기나 그림자 지는
or hidden in the shadows. Towns and villages provide incorpecting
곳에 은익납니다. 모시 및 막용은 교자 도느망, 중이는 지상

road networks, hard land for easy ground movement, and excellent night 이동을 의한 도장으로 및 골등한 야간 운영능력을 제공합니다.

operation capability. The PARP location should provide masking from FARP 에 등입하는 등을 및 지상로는 물론 위치에

radar detection for the location as well as air and ground routes 대한 레이디 담지를 방해하는 곳에, FARP가 위치해야 합니다.

into and out of it.

- 2. Operation:
- 2. 운 영:
- a. Personnel and Equipment in U. S. Organizations: See 가. 미근제상의 오염 및 장의 : 변설

Inclosure 1.

## 7 潜花。

- b. Ammunition and Fuel Requirements: See Inclosure 2.
- 나. 판 약 및 연료소요 : 밝힌2 참조.
- o. Site Preparation: Clear away loose sticks, stones, and any 다. 기 지 준 비 : 청소작가 흡수할 수 있으며 제기할 수 있는 other debtis that could be sucked up and thrown out by the rotorwash. 나무조각, 들 및 기탁 파크을 청소합니다.

Clear the immediate refueling and rearring areas and paths of approach. 인정한 제공유 및 제무공 지역과 접근로를 중소합니다. osoning ordenska profileska kantantantantantantantantan sa manga pantantantan kantantan sa manantantan sa sa

To prevent fires, clear dry grass, leaves and brush away from a level 확대를 예방하기 위해서, 건조 및 낙엽을 제거하고 유류 주입기가 위치한 spot where the pumping assembly will be placed. 당지를 점소합니다.

d. Compuflage in the FARP: Boundse of the high possibility of 막. FARP 에서의 위장 : 이동 약약화 가능성이 크므로, 방 또는

having to move, note or other types of concentment may not be of ant 기탁 은 때 정찍는 크게 유리하지 않습니다.

significant advantage. When possible, place the props, filtpt, 각독함시, 품드, 역계기간위기 및 연호

separator, and furl drums in woods or brush, along a hedgerow, or in 트림통을 높속 또는 관위 속에, 관무의 영을 부탁서 또는 자연적인 음양이 positions where natural shadows will disguise the shadow patterns of 장비의 암영을 변장시킬 수 있는 장소에 위지시킵니다.

the equipment. It may be possible to conceal most of the hoses in the 일템로 서있는 수록의 가지에 긁혀 있는 노쥬로서 출출에

woods, with the nozzles hung on hangers at the edge of the tree line. 있는 호스의 대부분을 은덱시킨 수 있습니다.

sary, use heaped dire or large rocks to break up the characteristic 다면, 鉴수 보스의 측징을 도시하는 입면의 유명을 제기하기 위하여.

straight shadows of the suction hoses. Remember that shadow patterns 쌓여있는 쓰레기 모든 데큐드의 암석을 사용합니다. 학부동안에도 올림의

change during a day; move your equipment, if necessary, to use these 형태가 변환하는 것을 상기해야 합니다; 필요시, 변화하는 형태를 이용 changing patterns.

빡여 장비를 이동시키십시요.

e. Equipment layout: U.S. Army Field Konnal 10-69 explains the 마. 장 비 꽤 치 : 미육군 약진교병 10-63 에 전략지역 제공유 layout of the Forward Area Refueling Equipment (FARP) in detail. 장비의 배치에 관해 상세히 기술되어 있습니다.

#### IV. CONCLUSIONS

과 론

To be determined by participants in the Logistics Workshop. 균수연수의 참가자들이 후후 결정하 것입니다.

Conclusions should be based upon the Workshop presentation and 결론은 연수회 발표 및 포의에 기조하여야 합니다. discussion.

#### V. RECOMMENDATIONS

건 의 사 항

To be determined by participants in the Logistics Workshop. 근수연수의 참가자들이 추후 결정할 것이니다.

Recommendations should support the conclusions. 건의사장은 코른을 지지하는 것이어야 쓰니다.

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ISSUE: TRAINING DEVELOPMENT PHILOSOPHY 논편: 훈련 개발 원리

I. INTRODUCTION

서본

This paper outlines the philosophy of training development in the 본 논문은 항공 기계공 및 항공 구성품 수익공에 대한 교육 개발 process of developing instruction for aviation mechanics and aviation 과정에서 존원 개발의 윤익을 개술한 것입니다. component repairers. A glossary is attached at Inclosure 1 to further 본인 개발에서 사용된 등어의 의미를 상세히 설명 explain the meaning of terminology used in training development 하기 위이이 낼침 1에 음어집이 정부목이 있습니다. literature.

II. PURPOSE

목 적

The purpose of this paper is to inform the ROKA eviation staff of 본 논문의 목적인 매달린국 육군 항공장으에게 당공 정비 본야의 the Transportation School's approach to training development in 콘턴 개발에 대한 수송학교의 접근 방법을 소개하는 것입니다. aviation maintenance.

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#### III. DISCUSSION

里 马

A. Prior to 1975, Training and Doctrine Command (TRADOC) schools 가. 1975년 이건, 교리사령부는 및 가지 규정을 이용한 developed instruction using several processes, none of which were 교육을 제발하였으나, 그 중 하나도 표른쪽은 것은 아니었습니다. standardized. The largest shortcoming of earlier training development 조기 운전 개발의 취대의 반절은 근략하여 상로근건된 was the lack of an in-depth front-end analysis. In addition, the 문석의 길여였습니다. 또한, 각 군(숙근,

various services (Army, Air Force, etc.) were not standard in their 공근 등 의 근건 개상에 대한 집근법은 표준하되지 못한 상태였습니다.
approach to training development. For these, and other reasons, the 이러한 미유의에도 모다운 이유로

Commander of TRADUC directed that all schools adopt the Instructional 교리사랑돈은 모든 학교가 돈은 거발에 있어서 교수되지기발 Systems Development (ISD) approach in the development of training. 접근법을 제략하도록 지시하였습니다.

3. The ISD process incorporates five phases: analysis, design, 나. 고수제제지는 폭청은 5 반께로 구체하됩니다: 분석, 고안, development, implementation, and control. During Phase I, the analysis 1 단계 족 분석 단계증, 개방, 시층 및 동니. phase, jobs are viewed in terms of the tasks performed. This is accom-- 횟드는 수행된 업무의 근감에서 고감됩니다. 이것은 심제 plished by listing tasks and verifying the tasks performed by the 진무 단단자가 작목자와 환력하여 수행된 업무를 연기하고 일종하는 accual job holders in concert with their supervisors. The casks are 모든 업무는 것으로 구성된니다. than reviewed to determine which ones require training and which ones 어떤 것이 폰빈을 오하여, 어떤 것이 기탁 방법으로 속답될 수 있는지 cac be learned by other methods. As an example, it might be determined 여용 들면, 독단학 제거는 복장한 입무 를 고찰합니다. that rotor blade removal is a complex task and requires training, while 여겨 근원을 오하는 것으로 판단될 수 있는 반단, 인반적인 도구의 the use of common tools can be learned while doing. After the tasks are 어무가 혼연을 오하 사용병은 사용하는 동안에 익힌 수 있습니다. selveral for training, job performance measures are constructal for 는 것으로 선정되던, 이러한 업무에 대한 작무 징역숙경 기준속 막던 these tasks. Also, emisting courses are reviewed to determine thick 또한, 본원을 오하는 것으로 신청부 업무증 여누 것이 이미 전부다. of the tasks selected for training are already being taught. Then the 고육되었는지를 결정가기 유하여 현재과 교육과장을 정도합니다.

appropriate instructional setting, resident (classroom at the training 다음에 적절한 내지, 거주자(근단기관의 고실) 또는 비거구자(자대에서 institution) or nonresident (at the unit by correspondence or OJT) is 통신 도는 실무 교육)를 선정합니다.

selected. The products produced by the analysis phase include: 분석 단계에서 모출된 경곡는 다음과 갈흡니다:

- 1. A list of tasks performed. 수행된 업무 목복.
- 2. A list of tasks selected for craining. 군선을 유하는 것으로 선정된 업무 극복.
- 3. A job performance measure for each task selected for training. 훈련을 르다는 것으로 선정는 각 업무에 대한 침무성곡 측정기준.
- 4. An analysis of the job analysis, task selection, and performance 직무분석, 업무 신경 및 이러한 극정이 전체적으로든 부분적으로든 measure construction for any existing instruction to determine if these 사용 가능한 지의 여부를 집정하기 위한 모든 현존 고육에"대한 성구측정 courses are usable in whole or in part. 기준성정.
- 5. Selection of the instructional setting for the task selected 프용등 드하는 것으로 신경된 언트에 대한 그유푸경의 서타. for instruction.
- C. During Phase II, the design phase of the ISD process, training - 다니 2 단계 속 교수체재개발 곡장의 모안 단계증, 혼란을 오하는 objectives are developed for each task selected for training. Test 것으로 신장된 각 업무에 대하여 훈련욕조금 지말합니다. 교육빛 items are prepared that correspond to and directly measure the 역 업구 스뻥능력에 일치하며, 직접적으로 그 능력을 측정하는 당독이 capability of learners to perform the casks. Also, all tasks are 마련되어 있는지원 김점합니다. 표, 요즘 영화는 교육동 structured and sequenced for training. The products of the design 위하여 조직꼭부고 겨입부됩니다. - 교한 단계의 건곡는 다음곡 phase includa: 3-55

잘읍니다:

- 1. A learning objective and learning analysis for each task 본편을 요하는 것으로 선정된 모든 업무에 대한 학습목표 selected for training. 및 학습 본식.
  - Test Items to measure each learning objective.
     모든 학습동표를 측정하는 항목의 점점.
- 3. A test of entry behaviors to see if the original assumptions 원피로 기장이 장당한가끔 확인하기 위한 분면전 업무수행 성조 were correct.

의 점검.

- 4. The sequencing of all dependent casks. 모든 종속적인 업무의 개였작.
- D. During Phase III, the development phase, objectives are classiel. 3 단계 즉 기밥 단계증, 식팅 부모, 인식 퍼턴 또는 학습 및 fied by learning cregories such as identifying symbols, recognizing 사용규칙과 같은 범주을 바약함 으므써, 목표를 서문쭈합니다. parterns or learning and using rules. The identification of Juidelines 교육 개발에 이용된 기또는 이

to be used in developing the instruction is done during this phase. The 단계에서 확인합니다. 가장

media most appropriate is determined before development begins. Next, 적성한 방법은 개발이 시작되기진에 경칭합니다. 다운에, pluna for management of the instruction are developed. Also, existing 교육 관비계획은 수립합니다. 또, 현존 교계

training macerial is reviewed for use. The products of the development '의 사용 여부를 검토합니다. '지말 단계의 검투는 마음국 phase include:

## 깔을니다:

1. Classificiation of learning objectives by learning catagory 방교를 따라하고 되지만 학습 지원을 확인함으로써 그들목표를 and identification of appropriate learning guidelines. 세분.

- 2. Media selections for instructional development and the 그육 개발을 위한 방법 선택 및 교육 심시를 위한 교육 instructional management plan for conducting the instruction. 관리 계획,
- 3. Analysis of packages of any existing instruction that meets 주어진 학습목표급 만족시키는 모든 만존 고육지함의 본니. the given learning objectives.
- 4. Development of instruction of all learning objectives where 한존 교제를 가용할 수 있는 경우 모든 학습목표에 대한 교육 existing materials are not available.
  개발.
  - 5. Field tested and revised instructional materials. 야진에서 정검 수정된 고제.
- E. During Phase IV, the implementation phase, the instruction is 마. 4 단계 즉 시항 단계증, 교육 관리계획을 사용하여 교육을 implemented by the use of the instructional management plan. Products 시행합니다. 시행

단계의 경곡는 다음과 같읍니다:

- 1. Documents containing information on time, space, student, 시간, 공간, 교육병 및 교육자원에 관한 정보를 포함한 서류약 and instructional resources, and staff trained to conduct the training. 콘런용 심시하도록 교육받은 참모.
- 2. After a completed cycle of instruction, information needed 진 구정의 교육을 마친 후, 연속되는 교육구정상, 교육구정을 to improve it for succeeding cycles.

개신하는데 필요한 접느.

F. During Phase V, the control phase, it is determined if every-바. 5 단계 즉 동세 단계증, 구청병에서 모든 것이 계혹된 대로 thing is happening as planned within the course. This phase gives the 진행되고 있는지 판단합니다. 본 단계는 언제, base required for management decisions as to where, when, how and 어디서, 어떻게 교육체제에 대한 수정이 이루어지야 하는가에 대한 revisions to the instructional system should occur. Products of the 문제 설정에 필요한 기호를 제공합니다. 통제 단계의 control phase include:

# 경과는 다음과 잘곱니다:

- 1. Data on instructional affectiveness. 교육 五子에 근한 자료.
- · 2. Data on job performance in the field. 아닌에서의 작업 성무에 근갖 가르.
- 3. Revision of the instructional system based on empirical 집합적인 자꾸에 기조한 교육체제의 수정.

daca.

G. The Transportation School has organized training development 사. 수송학교는 사원의 취대 이용을 위하여 교육 개발 1, 2, 3 단계 Phases I, II, and III for a maximum return on resources. This is 표 건성하였습니다. 이것은 accomplished by u independent forces consisting of Subject Matter Experts 답당구유건문가, 교육개발자/실시기습자 및 저자/전실자도 구성부는 (Shi), a Training Developer/Performance Technologist (TD/PT), and a 독수 임무부대를 이용하여 실시됩니다.

Writer/Editor (W/E). The task force is assigned to a single Military 복수 임무부대는 단일 군사주득기로 분유되며,

Occupational Specialty (NOS) and develops training through Phases I, 교수체제지발 과정의 1, 2, 3 단계를 통하여 고목을 선계합니다. II, and III of the ISD process. It then becomes the nucleus for 그 다음, 그건은 4 단계의 / 도가

Phase IV. Attached at Inclosure 2 is a briefing which more fully 됩니다. 발집 2에 모형유 미 상세히 설명하는 프리 j이 정부되어 explains the model. Attached at Inclosures 3, 4, and 5 are produces

'있읍니다. 빙정 3, 4, 5에 근사주북기 57M, 다용도 정의장터

of the TSD process for MOS 67N, Utility Helicopter Repairer. 수비공에 대한 고수체제개발 과정의 결과가 침부되어 있을니다.

## IV. CONCLUSIONS

검본

To be determined by participants in the Logistics Workshop. 군수 인수곡 참가사들이 주두 결정할 것입니다.

Conclusions should be based upon the workshop presentation and 결론은 연수의 발표 및 보위에 기초하여야 합니다. discussion.

#### v RECOMMENDATIONS

긴의 사항

To be determined by participants in the Logistics Workshop. 군수 연수의 참가자들이 추후 결정할 것입니다.

Recommendations should support the conclusions. 건의 사랑은 검돈을 기지하는 것이어야 합니다.

# REFERENCES

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육군성 규정

350-1 Army Training 유근 문단

350-XX (Draft) New Equipment Training and Introduction (to be (소안) 신 장비 문편 및 안내 ~ (1979 published in FY 79, will replace AR 71-5) 꼭게닌도에 발생될 예정이나 육규 71-5분 때째할 것임)

351-1 Individual Military Education and Training 개인 군사그와 및 준인

600-200 Enlisted Personnel Maragement System

611-1 MOS Development and Implementation 근사주특기 개발 및 시험

511-3 Military Occupational Daca Bank (MODS) 근사 독기 사료은당

611-201 Enlisted Carear Management Field and Military Occupational 사항 경력 존의분야 및 근사주목기 Specialties

# Department of the Jmy Circulars

국군성 투합

310-87 Soldier's Manuals (Field Manuals) 고인 그림 (야된 고텔)

## Department of the Army Pamphlets

작군심 함는넷

350-37 SQT Handbook ' 기술 자전시성 방향

# Training and Doctrine Command Regulations

교비사정부 규정

350-2 (Draft) Development, Implementation, and Evaluation of (고한) 기인 포함의 제발,시항 및 평가
Individual Training

### Training and Doctrine Command Circulars

고비사령부 역합

- 70-1 (Draft) Training Device Development (조안) 문편 장비 개발
- 108-1 Training Aids Support Centre (TAGC) Training Aids Device 콘텐 고재 지원본부 본런 고재 장비
- 310-5 Preparation of Army Wide Training Literature 법 국근 분연 교육서의 작성
- 350-2 (Duaft) Officer Job/Task Analysis and Training Development (조만) 장교 직무/업무 본석 및 훈련 개발 -
- 351-L Common Job and Task Management 명상 작무 및 업무 관리
- 351-4 Job and Task Analysis 식무 및 업무 분석
- 351-28 Soldier's Manuals, Commander's Manuals, Job Books, Policy 군인 고범, 지평군 고범, 지무 안내서, 방침 및 절차 and Procedures
- 351-2 (Draft) ACCP Subcourse Policy and Procedures for Development (조안) 개발을 위한 육군 봉신교육곡경 제품의 소구성에 관한 Training and Doctrine Command Pamphlets 방심 및 설차

교리사령부 람플릿

- 71-8 Analyzing Training Effectiveness 문단 표구 본북
- 71-10 Cost and Training Effectiveness Analysis Mandbook 비용 및 플런 모두 본식 변합

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TRAI		uplifers - continued 리사령부 땀픈렛-계속
350-	·30	Executive Summary and Model 행정 요야 및 도행
350-	-30	Phase 1 - Analyze 1 단계 — 본식
350-	-30	Phase II - Design . 2 단계 - 고한
350-	-30	Phase III - Develop 3 단계 — 개발
350-	-30	Phase IV and V - Implement and Control 4 단계 및 5 단계-시행 및 통제

ISSUE: AVIATION MAINTENANCE OFFICER REPAIR TECHNICIAN TRAINING

# 는 제 항공 경비 장고 수의 기술 훈련

I. INTRODUCTION

서 8

Aviation maintenance officer training has been an essential feature 항공 정비장교 훈련은 1952년 육군 짜조직이후 미육군 항공 정비계획의 of the U.S. Army aviation maintenance program since reorganization of 명수적인 흑면이 되어 왔을니다.

the Army in 1952. Course objectives remain scable, while subject matter 과정 목표는 끊힌이나, 주제 변경은 때개 신장비 및

changes are usually incurred by introduction of new equipment and 고 이상의 변화의 도입으로 이루어 됩니다.

changes in doctrine.

## II. PURPOSE

목 적

The analysis of maintenance officer training in the U.S. Army will 미유교의 전의하고 훈련을 본식하여보면, 일단하고 및 준위급 장고의 benefit the ROWA by affording an example of training for supervisory 감독 및 기술 요원을 위한 훈련의 일력을 견식하으로써 한국 유군에 ** and technical personnel at the first line of officer and warrant 도움이 될 것입니다.

officer levels. This example primarily relates to the U.S. Army 본 예는 주로 미 육급 정비 관리 구조에 관계되나.

maintenance management structure, but an interpretative analysis may 그 해식적 본식으로 이루 약간의 존련내용 및 목표의 수정인 요구되겠지만 identify a similar need in the ROKA, although some revisions in 한국 유근내의 유사한 필요를 확인하게 될 것입니다.

training content and objectives may be necessary. Also, the espential 또한 전에서설

functions of performing maintenance test flights and diagnosums 비행의 수행 및 운영상 비기능 점검의 증요한 기능은 그것들이 operational malfunctions will have nearly a direct application since 제작자의 기술 실계 당세서에 기초하기 때문에 기의 직접적 적용성을 they are based on munufacturer's technical specifications. 가장 것입니다.

III. DISCUSSION

AND THE PROPERTY OF THE PARTY O

트 요

The U. S. Army provides supervisory and technical aviation 미유군은 통일한 과장에 있는 장고 및 존위급 장고들을 위한 . ).
maintenance training for commissioned and warrant officers in the 감독 및 기술 항공 정비 훈련을 제공합니다.

same course. (For commissioned officers, the course is a part of 항고에 대해서, 본 가정은 항공 물자 관리의 투기를 professional training for officers specializing in Aviation Material 지난 장고를 위한 전문적 훈련의 일부분이며, 항공 준위급 장고에 Management; for aviation warrant officers, the course focuses on 대해서, 본 과정은 정비 자원 관리 및 정비 운용에 주안점을 듣니다. maintenance resource management and maintenance operations. The purpose 본 과정의

of the course is to provide a general knowledge of the Army maintenance 목적은 육군 정비 계획에 관한 일반적 지수, 항공기 정비 지원관리의 program; a working knowledge in the management of aircraft maintenance 실제적 지수, 항공기 기관, 소기관 및 지원장비의 비기능의 검열 및 검검 resources; inspection and diagnostic procedures of malfunctions in 절차, 비기능을 수정하는데 소요되는 수정조치 및 항공기의 내급성을 aircraft systems, subsystems, and support equipment; corrective actions 교정하는데 소요되는 운용검사를 수 해하는데 있어서의 세부적 지수 등을 required to correct malfunctions and provide detailed knowledge in 제공항에 있을니다.

paristmence of operational checks required to determine aircraft air-

worthiness. The course length is approximatel, 15 weeks; however, it 본 파정의 기간은 약 15주입니다. 그렇다, will vary by several days depending upon which aircraft the student 그 기간은 수가자가 전공하는 항공기에 따라서 먹침간의 변통이 있을 specializes in. Specialization occurs in the last phase where maintends.
니다. 전공은 정비 시험 비행 교수의 마직막 단계에서 결정된 nance test flying is taught. Ultimately, graduates will supervise 니다. 비록 약간의 수강생은 참도 정비보직에

senior noncommissioned officers in performing and managing maintenance 비스피지만, 궁극적으로, 이수자는 부터나의 정비 운용을 수해 및 관리하는 operations in a unit, although some students will be assigned to staff 상급 하사관을 감독합니다.

raintenance positions. The course is taught at the Transportation 건 작성은 수송학교에서 교수함으로써, 장비

School so that the requirement for equipment, facilities, and funds 시설 및 기급의 소요를 유사한 사병 훈련에 따르는 자운을 분답하여 절감 is reduced through the sharing of resources with similar enlisted 파도록 합니다.

training.

# IV. CONCLUSIONS

·경 : · 혼

To be determined by participants in the Logistics Workshop. 군수 연수회의 참가자들에 외해서 추후 결정될 것입니다.

Conclusions should be based upon the Workshop presentation and 길론은 연수의 발표 및 모의에 기초하여야 합니다.

discussion.

## V. RECOMMENDATIONS

건 의

To be determined by participants in the Logistics Workshop. 군수 연수회 참가자들이 추후에 결정할 것입니다.

Recommendations should support the conclusions. 건의 사항은 경투을 지지하여야 합니다. ISSUE: AIRCRAFT REPAIR SUPERVISOR AND TECHNICAL INSPECTOR TRAINING 는데: 항공기수의 강독관 및 기술 기열관 본론 Î. INTRODUCTION

서 혼

Aircraft repair supervisor/technical inspector training is an 항공기 수의 감독관/기술 검영관 훈련은 및 육군 항공 정비 계획회 essential feature of the U.S. Army aviation maintenance program. 한 중요한 흑면입니다.

Course objectives remain stable, while subject matter changes are 본 과정의 목표는 불변이나, 주제의 변경은 보통 신장비의 도입 및 usually incurred by introduction of new equipment and changes in 고리의 변경에 의하여 이루어집니다. doctrine.

## II. PÜRPOSE

목 적

The analysis of supervisor/technical inspector training in the 미 육군 내의 감독관/기술 급연관 훈련 분석을 통하여 일선 삭병
U. S. Army will benefit the ROKA by affording an example of training 가득과 및 기술 검열관을 위한 훈련의 일렉를 제공함으로써 한국 육군 for first line enlisted supervisors and technical inspectors. This 에게 도움이 될 것입니다.

example primarily relates to the U. S. Army maintenance management 에는 주로 미 육군 정비 관리 구조에 관계되나, 해석적 본석으로, structure, but an interpretative analysis may identify a similar need 비록 훈련 내용 및 목표에 대해 약간의 수정이 필요하더라도 한국 육군내의 in the ROKA, although some revisions in training content and objectives 유사한 필요를 확인하게 될 것입니다.

may be necessary.

III. DISCUSSION

토 의

지는 U.S. Army provides resident training for aircraft repair 이 유문은 통일한 교육 가정에 있는 항공기 수비 감독관 및 supervisors and technical inspectors in the same courses of instruction. 기술 검영관을 위하여 위략교육을 제공합니다.

The courses are designed for enlisted personnel rising to the NCO rank 그 과정은 교수 하사관 계급에 진급하는 사병 요원들을 위하여 계획되었으면 of 환6 where they will be awarded a 30 skill level occupational specialty. 진급과 등시에 그들은 30 숙련정도 근무특기를 부여받을니다.

In the aviation maintenance career field, an NCO holding a 50 skill level 항공 정비의 전문적 영역에 있어서 30숙면정도 근무록기를 소지한 하사관은 specialty is qualified to occupy the position of first line maintenance 인선 정비 가득군의 권위를 취득할 자겨운 갖게나 혹은 그의 특기 영역내에서 supervisor, or he may occupy the position of technical inspector for 추행되는 작업을 위한 기술 검업관의 작위를 위득할 수 있을 내다.

work performed within his specialty area. Thirteen separate courses 13개의 개발적 과장이 싫지

are donducted, one for each of the enlisted aircraft and aircraft com-띄덕, 개개의 등록된 항공기 및 항공기 구성품 수딕 특기에 한개석의 ponent repair specialties. The courses average 7 weeks in length. A 과정이 할당됩니다. 훈련 과정의 기간은 평균 7주입니다.

typical example of course content is contained in the program of 가정 내용의 전형적인 에는 첨부 1의 교육 계획서에 수록되어 있을니다. instruction at Inclosure 1.

 $\tilde{\mathbf{b}}_{+}$  . The combined training for supervision and technical inspection

나. 게게의 항공기 기관 및 구성을 기관에 대한 감독 및 기술 강열을 for each aircraft system and component system is a relatively new 위한 연합 훈련은 미 육군에 있어 비교적 새로운 개념합니다.

concept in the U.S. Army. Previously, there were only two types of 각거에는, 요집 그정의 및 확전인의 문간이

technical inspectors, rixed wing and rotary wing and their training 형의 기술 검열관간이 있었으며 그들의 준변은 항공기 수의 감독관각는 was separate from aircraft repair supervisors. Important factors which 구분되었을니다. 본 서로운 개념의 발전을 caused the development of this new concept include: 가져온 중요 요인은 다음과 같습니다:

- 1. The increasing complexity of aircraft and component systems
- 7. 항공기 및 구성금 기관의 증가된 복잡성으로 인하여 보통의 made it impossible for the average fixed or rotary wing technical 고정의 및 획진의 기술 검업관이 이 법주에 속하는 기관의 모든 면에 inspector to caintain technical competence in all of the systems in 있어서 기술적 능력을 우지가 불가능해졌습니다. these categories.
  - 2. Economy in training and personnel assets were achieved because
- 2. 메우 유삭한 내용의 개별적 과정들이 통합되었고 또한 훈련된 separate courses with very similar content were combined, and because 사병이 현재는 항공부대에서 한지 이상의 보직을 가질 수 있음으로, the trained soldier is now able to hold more than one position in an 논란 및 인적 자산에 있어 경제성이 이루의 졌음니다. aviation unit.
  - 3. Technical inspectors previously experienced difficulty in
- 3. 기술 검열관들은 과거, 진급을 위하여 감독의 본역를 이수 promotion to higher grades as they were required to cross over into 하는 것이 요구되었기 때문에 진급하는데 있어 어려움을 겪었음니다. the supervisory field for advanced promotion. This system puts all 본 제제는 의상급으로

aviation maintenance personnel in the same category for promotion to 진급하는데 있어 모든 항공 정비 요원을 등일한 경주에 두는 것입니다. the highest onlisted grade. IV CONCLUSIONS

是"一"是"

근수 연수회의 참가자들에 의하여 휴가 결정될 것입니다. Conclusions should be based upon the Workshop presentation and 결혼은 연수회 발로 및 트회에 기초하여야 합니다.

## V. RECOMMENDATIONS

To be determined by participants in the Logistics Workshop. 근숙 연수의 참가자들이 추후에 결정할 것입니다.

Recommendations should support the conclusions.

ISSUE: DEPOT MAINTENANCE - CONTRACT VS. IN-HOUSE (ORGANIC)

보급창 정비 - 계약 및 자체 정비

### I. INTRODUCTION

서본

Depot Maintenance: Maintenance actions the object of which are 보급창 정비: 저수준의 정비능력 및/도는 용력을 조곡하며, the correction of previously detected and recorded faults which exceed 사전에 탐지두고 기록된 고장에 대한 수정을 그 다상으로 하는 정비조치. the capability and/or capacity of lower maintenance levels. The

Standards of Serviceability applicable to the item undergoing Depot 정비 대상품곡에 적용되는 사용 가능성 여부 기준은 그 품목을 사용가능한 Maintenance are utilized as guidelines for restoring the item to a 상태도 보곤하는 지표로 이용됩니다.
serviceable condition.

#### II. PURPOSE

목적

Provides data to be utilized during the analysis for Contract 대한민국 육군 항공계획에 적용되는 계약 보급창 정비 및 자체 Depot Maintenance versus In-House (Organic) Depot Maintenance that 보급창 정비에 대한 비교 분석기간증에 이용될 자료를 제공하는 것입 could be applicable to the ROXA AVN Program. The data presented is 니다. 제시된 자료는 범세계 predicated on US Army requirements to support both the combat forces 전투부대 및 전반적인 육근성 재고를 지원하기 위한 미육군 소요에 입각 worldwide and the overall DA inventory. The ROXA distribution of 한 것입니다. 대한민국 육근에 대한 장비 equipment should be a factor not overlooked in the final analysis. 배부는 콕종 본석에서 간곡되어서는 안될 요소입니다.

## III. DISCUSSION

**

- A. Analysis.
- 기, 문칙
- 1. The two current methods of accomplishing Depot Maintenance 육근 항공기 및 구성품에 대한 현행 보급창 정비 실시 방법 for Army aircraft and components are as follows: 2 가지는 다음과 같습니다.
- Contractor Depot Maintenance. Is that maintenance exceeding (가) 기약자 보급장 정비. 자체 보급상 및/또는 하급 정비 the capacity and/or capability of organic depots and/or lower main-제대의 음력 및/또는 능력을 조곡하는 것으로 빈간 기업에 위탁하는 정비. tenance echelons that is awarded to a commercial firm. (These

requirements also include items on the Maintenance Allocation Chart 에는 장비 담당도상에 보급창급에서 실시하도록 지정된 품목도 포함됩니다) that axe designated to be accomplished at Depot level).

b. In-House (Organic) Depot Maintenance. Is that maintenance 다. 자체 보급창 정비. 여당 정비활당표에 되는 정비활당표에 되는 장면 지청된 정비 및/또는 하급 정비제대의 용력 및/또는 능력을 조곡 that maintenance which exceeds the lower echelons of maintenance 하며, 육근 보급창 또는 지근근무 계획체에서 계획(라고, 즉 미해근 capacity and/or capability and is accomplished by establishing pro-또는 공료이 수행하는 계획)을 수립함으로써 수행되는 정비. grams at Army Depots or Cross Service programs. (Programs accomplished

by other services, i.e., US Mavy or Air Force).

2. Advantages. The following reflect areas to be given 장점. 다음은 이용될 보급상 정비 방법의 의종적인 선택 proper consideration prior .o making the final selection relative 이전에 충분히 고려되어야 할 지을 엮거한 것입니다.

to the method of Depot Maintenance to be utilized.

- a. Contractor Depot Maintenance.
- (가) 계약자 보급자 장비
- (1) Most oconomical for an item with a low population, off 동일 품목을 소량 구매할 경우, 직접 구매기 용어하므고 shelf buys, etc.
  가장 검제적입니다.
- (2) May be utilized when data is incomplete (Depot Maintenance 자료가 높은진한 경우 이용될 수 있습니다. (보급장 정비 Work Requirements, drawings, provisioning data, etc., are not avail-작업 소요, 제도, 참정적 자료 등은 가용한 수없읍니다.) able).
  - (3) Sole Source (only manufacturer, retained data rights, etc). 독점적 공급적 (제조업자, 자료 보유권 등)

- (4) Can be a supplemental source when in-house depots are 자체 보급상이 운전 조업증일 때 보용적인 약합을 할 수 working at capacity.
- (5) Expenditious source when lead time will not allow in-house 자체 도구설치, 요원 군련 등에 시간적 여유가 없을 때 신속 tooling sec-up, training of personnel, etc. 하게 대시할 수 있습니다.
- (6) Has a complete capable staff capable of randering engineer-기술적인 경쟁, 부품의 대체 등의 능력을 갖춘 유능한 참모진 ing decisions, substitution of parts, etc.
- (7) Known throughout industry for the ability of producing 우량품 생산능력이 산업계에 넓힌 앞려져 있옵니다. a quality product.

- (4) In-House Depor Vainzenance.
  - (1) Capacity and capability during National Emergencies. 및 가 비사기를 공연 및 늘일.
  - (2) May currently be doing similar stems. 유사 품목에 대해 현재 시시되고 있습니다.
- (3) Transition possible with only minor impact on tooling, 도구, 오권 등에 쓴 영향을 미치지 않고 번뜩 가능, parsonnel, etc.
  - (4) Most expaditious (doing similar programs, atc.). 가장 신속합니다. (유사 계획 등을 설시함에)
- (5) Mora receptive and reactive to changes, additions, 반짝, 수가, 차제 등에 더 인감하고 반용적합니다. delections, etc.
- (6) In-house assabilities provide a ready work force supple-자제 보급장은 비상시 또는 확인병 중가시 및 고장수리시, ment to field operations in time of emergencies or increased work-마인자전에 대한 작업 보습병력을 제공합니다. iond soft troubleshooting.
  - B. Summary.
  - 나. 유학

TSARCOM currently utilized both Contract Dapoc Maintenance 부때지원 및 항공품자 준비사정부는 현재 계약 보급장 장비 및 and In-House (Organic) Dapot Maintenance. The regulations governing 자체 보급장 장비 양하를 모두 이름하고 있을니다. 등 사업무의 결정에 this procedure as well as the factors used in decermining the TSARCOM 양한국 이란 요인뿐만 아니라 본 경자에 작용되는 규정은 많고 목잔한다 ueclaion are numerous and complex. Recommend the ROCO be made aware.
다. 매한민국 육군은 전술만 작모를

of the preceeding data and TSARCOM provide the assistance as requested 마악하며 동 사령부는 그 집요에 가장 적합한 보급장 장비방법에 대한 by RCKA in formulating their decision on the method of Depot Main-긴장을 공식확합에 있어서, 대한민국 육근된 오청에 따라 지원을 제공 tenance best suited for their need. However, too much emphasis cannot 합니다.

be placed on the fact the US Army support requirements are worldwide, 대한민국 육군에 적용되는 처용되지 않는, 팀세계적이라는 절은 매우 which may or may not apply to the ROKA. 증시되어야 합니다.

## IV. CÓNCLUSIONS

겼본

To be determined by participants in the Logistics Workshop. 훈수 연수의 참가자들이 추후 결정할 것입니다.

Conclusions should be based upon the Workshop presentation and 결혼은 연수의 발표 및 로셱에 기초하여야 합니다. discussion.

## V. RECOMMENDATIONS

건의 사항

To be determined by participants in the Logistics Workshop. 군수 연수의 참가자들이 추후 결정할 것입니다.

Recommendations should support the conclusions, 건의 사항은 결론을 지지하는 것이어야 합니다. ISSUE: ON COMDITION MAINTENANCE/AIRFRAME CONDITION

는지: 조건부 정비/기체 상태 (OCM/ACE) PROGRAM

(조건부 정비/기제상태평가) 계획

I. INTRODUCTION

서른

The "On Condition Maintenance/Airframe Evaluation (OCM/ACE)
"조건부 장비/기체상태 평가 계획"은 육군이, 분해수리된 항공기
Program is a management tool that has enabled the Army to upgrade
수급 감소시김국 동시에 전체적인 비행준비태세를 강곡하고 이제따라
the overall readiness of its aviation fleet while simultaneously
소비된 자산(즉, 요원, 비용, 시설 도는 이 품목들의 조합)에서 최대
reducing the number of aircraft being overhauled, and thus extract
효곡용 추출항 수 있도록 한 관리기법입니다.

maximum benefits from the assets expended (i.e., personnel, money,

facilities, or a combination of these items).

II. PURPOSE

- 득 적

To acquaint the ROKA with the OCM/ACE Program. 대한민국 육근에 조건부 정비/기체상때 평가 계획을 숙지시킴.

III. DISCUSSION

툿 의

A. Each aircraft is given Aircraft Condition Evaluation by 가. 모든 항공기는 특수 훈련된(보급창급) 요원에 의하여 specially trained (Depot Level) personnel. The ACE, which takes 기체상돼 평가를 발읍니다. 기체상돼 평가는 1 때등 approximately one to two hours on each aircraft, is keyed to detect 약 1-2 시간이 소요되며, 그 원인에 관계없이 기체의 전반적이며 the general progressive deterioration of an airfrage, regardless of 전진적인 상태악무를 탐지하는 데 주안점을 둡니다.

its cause (normal wear, overscressing, climatic conditions, etc.). (강상적인 마모, 파용력, 기무조건 등)

The sireraft are then given a numerical score, which allows them 항공기에는 점수가 빠져서며, 기 점수를 서로 비교하여 그 돌리적인 to be compared to one another and ranked in the order of their 상태가 따라 순위실 강한답니다.

physical condition. By knowing the relative condition of each air-SH 내의 모든 항공기의 상대되인 상태를 하학 학교 다이 나라를 다 다음 Worst aircraft can be overhauled first 하여, 의학의 항공기는 "필요시" 기준으로 의우신 문제수에함 수 이 an "as required" basis. This ultimately results in increased 이것은 결과적으로 문비되세를 강작하고 다음에 measurem ultilization of assets. It is estimated that 자산을 의대한 이용할 수 있도록 하는 것입니다. 3 덩으로 구성된 보다되면 이 first 의대한 이용할 수 있도록 하는 것입니다. 3 덩으로 구성된 의 대한은 100~1,000 대의 항공기를 집안하고 지속을 논리하도록 한다음 있습니다.

B. The following statistics illustrate the comparative cost 나. 다음 통계는 UH-1E 항공기에 떠한 "5 개년 주기의 본해수비" between the "Five Year Overhaul Cycle" vs the "CCM/ACE Overhaul" 욕 "조건부 정비/기체상배 평가 본해수비"계획간의 상대적인 비용을 program for the UH-1H aircraft.

FINE TO THE TANK	5 YEAR CYCLE 5 74 14	<u> 1520</u> 주 년 주	DIFFERENCE IN A/C A) o	COST <u> </u>	<u>\$471XGS</u> \$4 \$5 \$5
1976	주기 799	हुन भी 599	200	\$ 88,162	\$17,632,400
1977	78 <b>2</b>	335	447	95,787	42,816,789
1978	781	358	423	105,748	44,731,404

 DIFFERENCE COST

 YEAR
 CYCLE OCH 5 개단 조건부 차이 분하수리비용 질약분

 연도 주기 경비
 499
 \$105,748
 \$52,768,252

## IV. CONCLUSION 경온

To be determined by participants in the Logistics Workshop. 군수 인수회 참가자들이 주후 결정할 것입니다.

Conclusions should be based upon the Workshop presentation and 길본은 연수의 발표 및 도우에 기조하여야 합니다. discussion.

## V. RECOMMENDATIONS 건의 사항

To be determined by participants in the Logistics Workshop. 근수 연수의 참가자들이 추우 결정할 것입니다. Recommendations should support the conclusions. 건의 사항은 검존을 지지하는 것이어야 합니다. 1. UE: DEFOT SUPPLY

는 제 중 보 급

I. INTRODUCTION

거 큰

This issue paper will not attempt to address in any detail the 본 논문에서는 미 육군의 중 보급체제의 크성 또는 운영에 대해 organization or operation of the U. S. Army's depot supply system. 장세히 기술탁고자 참이 아닙니다.

Rather, it will bring out some of the more important concepts, techniques 오히덕, 창 및 재고를 조사 통제소 수준에서, 보급관리를 하는데 우리가 경험한 and lessons we've learned in our management of supply at the depot 좀 더 증요한 개념, 기술 및 고훈 종의 몇가지를 명시하고 있을니다. and inventory control point level. The inventory control point is our 재고를 조사 통제소는 보급들의 구맥

supply manager who directs the procurement and issue of supplies. The 및 지급을 지시하는 보급관리인의 역할을 행합니다. 상 depot stocks, stores, receives and issues the repair parts. 에서는 수리 부품을 박곡, 보관, 수령 및 지급합니다.

#### II. PURPOSE

사 그

To provide ROXA logisticians information on the U. S. Army supply 대한민국 육군 군수 요원들 에게, 확장중에 있는 그들의 항공대를 위한 support system that might be useful in their efforts to establish a 지원체제를 확립하는데 유용한, 미 육군 보급지원체제에 대한 법보를 제공 system of support for their expanding aviation fleet. 함에 있습니다.

#### III. DISCUSSION

모 의

A. Many innovative techniques were developed curing operations in 가. 항공 보급검하를 재선시키고 항공기 운영 준비를 향상시키는 다수의 Viecham which improved aviation supply procedures and enhanced aircraft 혁신적인 기술이 베르남에서 운영하는 등은 발전되었읍니다.

AND THE RESERVE OF THE PROPERTY OF THE PROPERT

operacional readiness. One of these techniques was the establishment of 건 항공기, 항공건자문학, 공중부학, 지상보통 및

the Aviation Material Management Center (AMMC) which provided supply 항공기 무장씨제를 의해보고 지원 관계를 제공하는 항공급자 관계본부를 support management for all aircraft, avionics, air delivery, ground 실립한경도 본 기술의 환자자 이었을니다.

support and aircrait armament systems. Prior to the establishment of 항공급자 관립분부를 설립하기

AMC, units requisitioned through a variety of separate commodity managers, 이전에, 부때문은 다 독립문을 관리인을 통해서 경구했습니다. 역회, 항공기 수리 for example, aviation for aircraft repair parts, signal for avionics, 부름을 위해서 항공관리인, 항공건작공학을 위해서 통신관리인, 항공기 무기 and arrament for aircraft veapon systems. This system was very cumber-체제를 위해서는 무당관리인에게 정구했을니다. 본 체제는 상에가 되었으며 some and caused many delays which affected operational readiness. The 은양 준비에 영향을 주는 지연의 원인이 되었을니다. 중앙

establishment of a contrilized maintenance and supply center proved to 신청된 장비 및 보급분부의 설립으 모르를 이 가장 유의관 조치증의 학나이며 be one of our most beneficial: ... as and one that we have tried to 유틱의 조각 구조에서 심현시키다 했던 박일니다.

emulate since in our organizational structure. It gave the user and 등 본부가 걸립되어.

supporting units a single source of contact for all aviation logistical 사용자 및 지원부대들은 건 항공군수 문제에 관해서 등 본부와만 잡복하면 matters. The organizational structure and functions of the AMC are 되었음니다. 항공문자 관리본부의 면장 조직 및 기능은 발전으로 최본 attraited as an inclosure for your information. 됩니다.

B. Another innovation developed during the Vietnam War, our 나, 벡트남 건강 중 발전된 토 다른 기술병신 및 작업지원세제가 Direct Support System (DSS), has now been adopted and implemented 현재 재택되어 세계적으로 이용되어 오고 있습니다.

worldwide. The words "direct support" have no specific relationship "직접지원"이라는 용어를 정비 로는 보급수준구 특별한 관계가 with maintenance or supply levels; rather, they are used here to 없을니다; 오이력, 가능한한 사용자에게 보급지원을 직접하는 것을 describe supply support as "direct" to the user as possible. Based on 나타내기 위해 본 음어들이 사용됩니다. 여전부대를 simplifying the supply system by reducing the number of depots servicing 위해 근무를 제공하는 장의 수를 목소시키고, 청구작중을 작용화하기, 참으로 field units, automating the requisitioning process, and shipping direct 부터 항공부터 정비소 드는 항공 중간 정비소에 콘테이너로 직접 발송함으로써 from depot to the AVUM or AVDM in consolidated container loads, DSS has

부터 항공부터 정비소 드는 항공 증간 정비소에 콘테이너트 의접 발송할으로써 from depot to the AVIM or AVIM in consolidated container loads, DSS has 보급 체제를 단속 확시키는데 의기하여, 직접지원체제는 작용자에게 가장 효과적 proven to be highly cost effective and responsive to user requirements. 이며 호용받는 것으로 관련되었습니다.

As we know it, DSS is designed to provide supply support on a global 이는 바꾸 군이, 직접지원체제는 통체적 구모로 보급지원을 제공하고자 scale but the same principles could be applied to your operations. 계환된 것이지만 독일한 원칙을 당신의 운영에 적용할 수 있을 것입니다. Another innovation supporting DSS is a concept called the Air Line of 직접지원체제를 뒷받침해주는 또 하나의 새 제도는 항공병참선으로 불리으는 Communication (ALOC). ALOC substitutes fast air transportation for the 개념입니다. 항공병참선은 완만한 지상 수송당식을 신속한 항공 şlower surface modes and thereby allows a reduction in stock layering. 무속으로 대체하기, 또한 제고량을 촉조시합니다.

The rapid distribution provided by ALOC permits resupply from the 항공병작선을 통해 제공되는 신속한 백론으로 안하여 전구보급소로 부탁가 continental United States direct to our overseas forces rather than 아니막 분모로 부탁 해외부대에 직접 제로급이 가능합니다.

from theatre stocks. The reduced pipeline and stockage costs offset 축소된 경로 및 제고 비용은 본 수송 방식의 비용국

the expense of this form of transportation. The ALOC system is 상색됩니다. 중공항화선 제제는

functioning for Europe and the program is now expanding to support our 은 마지역에서 작용되었으며 데찬민국내 이름은 지원학교자 본 계획이 할때 forces in the Republic of Mores. Again, it is recognized that this is 되고 있을니다. 또한, 본 계획이 전 세계에 급한 분액 a system for worldwide distribution; however, the same concept of 제계학문 것이 인지되고 있음니다; 그렇나, 내의 작고급을 위한 한국 substituting a responsive, intensively managed, supply distribution 육군의 필요성을 위해, 집중국으로 관리받는 요용국인 보급 배분세계를 system could be adopted to ROKA needs for internal and external resupply. 데체학적는 동안 개념을 취득한 수 있음니다.

- C. Other considerations: 다. 이 박 고 및 사항:
- 1. We recommend establishing the minimum number of supply and
- 7. 최소의 보급 및 전비 제대를 설립하도록 견의합니다.

maintenance echelons. This will minimize stock levels, the dollar 그림으로써 작고수준, 제고회사에 있어서 닭다

value in inventory and reduce pipeline costs. 가지가 최소확되면 보급 궁료상에서 밝성하는 비용이 중감됩니다.

- 2. Prescribed Load List (PLL) and Authorized Stockage List (ASL)
- 2. 방공기 과급수용력을 지원하기 위해, 부데급에서 글로르하는 construction should be tailored to support aircraft density with a 최소 금국으로 규정 휴데량 및 인가된 거장 목류을 작성해야 합니다. minimum number of items at unit level. Periodic reviews of PIL/ASE are 호비용으로 지원하지 않는 금무불을

strongly recommended to reduce and eliminate those items not supported by 육소학교 제기학기 위학여 평가적으로 PLL 및 ASL을 검토학도록 강력하고전의 consumption. Our experience has shown that units turn away from 합니다. 우리의 경험으로 보아, 두 떡들은 전투 작건을 단순 demiled maintenance during combat operations to simple parts changing.

dermixed maintenance during combat operations to simple parts changing. 부품을 교환하는 정말 정비를 의면합니다.

PLL should be designed for combat first and then consideration should 먼거, 전투서를 구력하여 PLL 을 수립했으면 박물으로 당시 운영을 그려 ba given to pencetime operations. 됐음니다.

- 3. A direct exchange program is essential to maintaining an excellent
- 3. 직접 고환계획은 훌륭한 가능 준비액세를 유지하는데 필요합니다.
  operational readiness posture. It is simply a repair and return to user
  단지 지원 수준에서 작용하에게 수의 및 반환

service at the support level. No requisitioning is required; the unit 지원 근무를 심시합니다. 경구가 필요하지 않습니다. 부대로서는 simply brings an unserviceable module or component to its supporting 단지 그 지원부 때에 사용불가능한 모든 도는 구성품을 가져와 사용 가능한 unit and direct exchanges it for a like serviceable item. The savings 품목과 직접 교환합니다. 시간을 점약

accrued through saving time, reducing paperwork and increasing operational 하고 서류사무를 축소하여 가능준비상대를 향상시킴으로써 발생한 예약으로, readiness will offset the additional stockage of modules and components 지원정비 수준에서 모습 및 구성품을 추가로 비축하는 것을 상태시킵니다. at the support maintenance level.

- 4. Establishing an "inventory control point" for aviation materiel

It would provide theatre asset visibility, receipt and processing of 제고 로자 등진소는 전구에 가산 변환, 중구사장의 수당 및 처리, 문자 requisitions, direction over movement of material and technical and 이동방향 및 기술적 정비 자료를 제공합니다.

maintenance data. Automatic data processing equipment and techniques 본 수준의 보급에게 관리를 위해 자동 자료처리 장비 should be exploited for management of the supply system at this level. 및 기술을 이유합니다.

We have found centralized control to be mandatory if costs and 만약 비용 및 효과가 끊잡하게 위지되어면, 중앙집중식 통제가 의무적 affactiveness are to be maintained ... an adequate invel.

- 5. Escaldiahing a system to intensively manage high dollar thems
- - 6. The transportation system should be reviewed very marefully to
- 6. 보급비통을 축소하기 위해 수술에세를 매우 면접이 경로 제어 합니다. reduce supply system costs. A transportation system eliminating 중간 수술이를 및 용감화를 뛰어났다.

craca-shipment points and consessed cargo terminals should be a contral

feature of any supply system,

#### IV. CONCLUSIONS

**3**1 & &

To be decormined by participants in the Logistics Workshop. 교육인수의 광가자들이 유자 기정화 것입니다.

Conclusions should be based upon the workshop presentation and 개호 하여야 있다니다. 레보는 교수의 발표 및 로디에 기호 하여야 있다니다. discussion.

#### V. RECONNENDATIONS

经分单位

To be decormined by participants in the Logistics Korkshop 교수인수의 유가가들이 우두 과정을 기입니다.

Recommendations should support the conclusions. 권의사항은 기본을 시지하는 것이어야 있니다.

## ORGANIZATION

## 뜀

1. The US Army Aviation Materiel Management Center is divided into a 1. 미옥군 항공문자 관리본부는 사명부, 두 곳의 항공장 및 항공정비 Headquarters, two aviation depots and an aviation daintenance detachment. 분기대로 구성되니다.

The two depots have a mission of receiving, storing, and distributing 두 곳의 하는 수리 부품을 수렁하며, 비속하고, 야정부 때에 분 배하는 입무를 repair parts to field units. The aviation maintenance detachment has 수 등 하다니다. 항공 커비 본 커디는 미 본토로 귀환하는 a mission of off loading, assembling and test flying aircraft arriving 항공기를 수용, 구남 및 메기커는 함은 물론 베르나에 착륙하는 비행기의 in RVN as well as receiving, preserving and retrograding aircraft back 하여, 조합 및 시험비행 임무를 수행합니다. to CONUS.

- 2. Headquarters AMMC maintains operational control over all aspects of 2. 항공문자 관리본부 사령부는 항공 재보급의 모든 사항에 대해 운영 통제를 aviation resupply and is organized under the Directorate concept. Briefly 유지하며, 여러 부서로 조직되어 있읍니다. 과 부서 stated, the functions of each are: 의 기능을 간단히 기술하면:
- a. Directorate of Administration and Services provides administrative 가. 햄정 및 근무지원부는 항공문자 관리본부 사랑부 및 예하부대에 행정 and service support to the AIMC Headquarters and subordinate elements. 및 근무지원을 제공합니다.
- b. Directorate of Plans, Operations and Management provides policy 나. 계획, 운영 및 관리부는 항공 군수에 관한 문적에 대한 정책 및 결사 and procedural guidance to the commander on matters concerning aviation 지점을 사용관에게 제공하여 사용부터 전 참모들의 연구를 강독하고, 현행

loginates and supervines all staff studies within the command, monitors 기계를 관계하고, 과정을 즐거하여 사업관에게 기의 그나다.
on going programs, evaluates programs, and makes recommendations to the commander.

c. Piraccorace of Supply - Coordinates and supervises activities 다. 보 급 부 - 건항를 수피부들의 최구, 수명, 보관, percaining to the requisitioning, receipt, scorage, issue and document- 출자 및 기계 학생에 관한 활동을 결혼하고 과목하여 호각 여분 및 제품이용 acion of all aviation rapair parce, and insures the collection, and 목록들을 수집하고 개본한다.

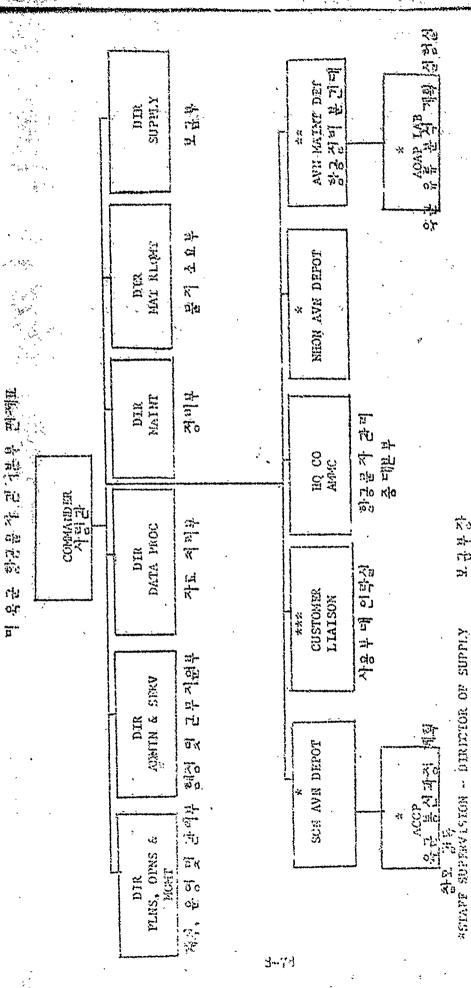
disposition of excess surplus and salvage items.

d. Directivate of Maintenance - provides statistical aviation 학. 등 기 부 - 방문기 함께, 항공기수의 계회 대화하는데 Analyzing 및 문기고 되어난 통적에 대한 항공하기 관의 문기자로운 제공한다; 사용자이 program and configuration control; assists the commander in analyzing 방공기 등의 문제를 분석하는데 조력한다;

nireraic maintenance problems; monitors the Closed LOOP Support System 항공기 및 엔진에 관한 긴밀한 지원증비 on nirerift and engines and schedules backload for SAAM Flights. 에제를 라비하여 제작된 학급의 특별 화당 공수이동 비행기회을 수립한다.

e. Directorate of Data Processing - programs and operates data
마. 자 호 의 및 부 - 항공급자 관리본부 및 항공하여
processing equipment to provide the Null and aviation depote the support
교통의 의무를 수 함하는 에 필요로 하는 지원을 제공하기 위에 취소하여 공사설
required to perform their mission.
계획하고 오이라다.

- f. Directorate of Materiel Requirements maintains and manages the 박. 문 자 & 요 부 미유군 강금기 항공 무장 Theatre Authorized Stockase List (TASL) for US Army aircraft air armament 및 항공건가공학수의부품을 위한 건구 인가 보관 목록을 유지 및 관리한다. and avionics repair parts.
- 8. Customer Liaison provides a channel for daily resolution of mutual 가. 서용부대 연락실 꾀합학여 상호 관심사를 매일 결정할 수 있도록 problems on a face-to-face basis, monitors their units XORS requisitions, 김보를 제공학이 부대의 부속 결암으로 인한 불가동상태 수익청구, 류별계획 special projects, and high priority shipments.
  및 우선순위가 높은 수송문제들은 관리한다.



USA AMIC ORCHIZATIONAL CHART

김독-보급부경 WITS SUPPORTED BY NOME (STAFF SUPPRINDIR OF SUPPLY) 출산이막(강도 사용부대 라리본부 가 지원하는 *STAPP SUPPRINCESION - DIRECTOR OF HAINCENANCE 2 4 4 24 PERSONNEL ARE PROM CUSTOMER からなった ंस् शुर्म गुर्म शुर्म erand assigning to amora 四 版 本祖 定記 中語でる

# FUNCTIONS

- 1. To develop theater wide requirements for multiple aircraft
- 1. 다종의 항공기 기관에 관한 전구 소요를 전개시키고 자산을 systems and assure that assets are on hand and properly managed to 보유하면, 이러한 소요를 충족시킬 수 있도록 적절히 관력한다.
  - 2. To receive and store repair parts from CONUS in the aviation
- 2. 미본로로 부터 수의 부품을 수팅하여 항공항에 보관하며 요청시, depots and to issue these parts to dustomer DSSA's upon request; in a 본 부품을 질집 기업 보급부대에 검시에 지급한다. timely manner.
  - 3. To identify slow moving stockage items at the depots and take
- 3. 장에 보관되어 있는 자주 사용되지 않는 보관 품목을 확인하여.

  necessary action to insure that these items are redistributed to CONUS

  는 품목들을 미분로 구가제고통제소에 재분배하드록 직접한 조치를 했한다;

  NICP's; also maintain accountable records of all excess shipments for

  도한 항공문자 관리본부가 인지할 수 있도록 조파 선적 회계기록부를

possible AMMC credit.

유지한다.

- 4. To supervise the Theater Aircraft Reparable Program (TARP) for
- 4. 신속히 보급세계에 반환할 수 있도록, 선정된 항공기 품목들을 위한 selected aviation items to assure their rapid return to the supply system; 전구 항공기 수의 계획을 감독한다;

to manage and coordinate the retrograde of engines and components through 고객들 및/또는 중요금 보급 계획을 통해서 엔진 및 구성들의 폐기처분을 관리 the HICRIT (high dollar and/or critical supply) program. 학교 현조한다.

- 5. To maintain an inventory listing of all Army aircraft and
- 5. 국내에 있는 건 육군 항공기 및 비빈 엔진의 제고조사 목록은 carbine easines in country and provide statistical inventory management. 유지막고 몸게상의 제고조사 관계를 제공한다.
  - 6. To monitor issues of MAD Kits requisitioned by the units by
  - 6. 항공기 미부의 변보에 의해 부대가 짧으로 하는 수미작업지시

nizorafe tuil number and maintain a configuration control listing of all 기료의 기급은 관리하고 백보날에 있는 역을 및 배속된 전 비행기의 콘피크웨이션 assigned and attached aircraft in RVN. 등제목욕을 유지한다. iogistics workshop three

Aircraft Systems Management

ISSUE: ATRORAFT SYSTEMS MANAGEMENT

는 제: 항공기 에게 관리

I. INTRODUCTION

석 존

Afforage systems management through a concept called the Readiness 이른 바 준 비기취실 지금을 통한 항공기 기관 근리는 UNL 과 값은 약전

Project Offices is the U.S. Army's method of managing a fielded fleet 항공기 함맥를 근리하기 위해 미요군에서 사용하는 방법입니다.

of aircraft such as the UN-1. The concept employs centralized, total 본 개념은 기관년의 및 제당 분야에서

systems management to eliminate the inadequacies we found when using a 이번 및 보급은 관리하는 기능을 재입자를 이용하는 분산라된 관리 접근을 decentralized management approach involving functional managers such as 사용 학있을 때 발견된 분충분간 점을 제기하기 위해 집중적이며 중계적인 maintenance and supply managing only their portion of the system. 기관 관리를 차백하고 있을니다.

#### II. PURPOSE

목 취

To inform ROKA aviation logisticians of U.S. Army experience in 한국으로 항공 군수요원에게 항공기 기관 관리에 막한 미육군의 경험을 the management of an aircraft system. Interpretive analysis may identify 주 지시키가 이렇입니다. 한국 육군 항공 계획에도 본 항공기 a similar need in the ROKA aviation program.

기관 관리가 다찬가지로 필요하다는 것을 심명적인 분석으로 확인할 수 있을니다. III. DISCUSSION

토 의

A.I. Aircraft systems management is a new concept in the management 가.1. 항공기 기관 관리는 우리의 항공 차원 관리에 있어서 새로운 개념 of our aviation resources. Brior to implementing this concept, respon-입니다. 본 개념을 싫시하기 이전에는 부때지원 및 sibilities were fragmented within various functional organizations at 항공 물자준비 살림부의 다양한 기능별 조취내에 취임이 논산되었을니다.

the Troop Support and Aviation Materiel Readiness Command (TSARCOM).

With responsibilities scarcered over several functional organizations 장비치, 등자 관리 (보급) 및 조탈취와 같은 커피의 기능별 호텔에 책임이 such as the Directorate for Maintenance, Material Management (Supply) 보신되어기 때문에, 항공부터 혹은 상급사람부가 달년을 요구하기 위해 and Procurement, there was no focal point for overall management of 문의를 취한 관업투 최가 없음니다.

the System to which aviation units or higher headquarters dould look

to for answers. This firetionally oriented approach allowed program. 이렇게 기능별로 유도된 집단으로 계후 조치가 눈살되었

- . .

actions to be accomplished precement; that is, by commodities wild 수행되었을 나라 :

subsystems rather than by a system such as the UH-1 aircraft systems. 하나의 기관에 의해서 보다는 상품 및 소기관에 의해서 수행되었으므다.

Without a central point of concact, using units found it very cuffcult 중앙 연락소가 없었으므로 사용부드는 문제 백화이 어딜라는 것을 발견 to resolve problems. Maintenance problems had to be referred to one 학연을 나다. 정비 문제가 학식의 기능별 부사에 위임되었고

functional element while supply problems had to be referred to another, 한편 불급문제는 그와 토막론 발계의 부서에 위임되어야란 했습니다.

etc. Even within one functional element users or higher headquarters
하나의 기능별 부서내에서 조차도 사용자 혹은 상급사령부는 누구에게
did not always know whom to contact.
연락됐가 하는지 항상 일자는 못하였을 때다.

- 2. The systems management concept was conceived to fill this
- 2. 기관 관위 개념은 이번한 변약한 관리를 중록시키기 위해 고안 management void. It provides contralized program management over a 타었을 나라. 이는 사용자 및 상급본부의 요구를 해결하기 위해 total aircraft system and a single point in the Command for resolving 사람부 내에 통계적 항공기 기관 및 단일 인박소에 관해 집중한 개봉관리를

user and higher headquarters needs. Resolving user project ne of 제공합니다. 사용자 문제 학결은 항송기기관 *

the most important aspects of the aircraft system management concept. 관리 개념에 있어서 가장 중요한 것 중의 하나입니다.

- 3. The systems management concept embodied in the Readiness
- 3. 준비 기획실에서 작성한 기관 관리, 기념은 기능별 부서에 분여된

Project Office is not incended to replace of supercede the mission-일무를 매제 보는 그에 확신하도록 의도되어 있지 않습니다.

tasks assigned to the functional directorates. RPO's manage their 훈백기록성 호원은

programs, injecting themselves into functional element duties only to 계획을 표확적으로 관리하고 수행하는데 꼭 필요한 만큼의 기능병부서 the extent necessary to assure programs are being effectively managed 이무를 분여받아 계획을 관리합니다.

and executed. This is based on proven experience that consolidation 이리카에 단제상 분리된 연구 및 개발, 골시간의, 정비

of Research and Development, Materiel Management, Maintenance and 및 호탈 기능의 통합의 경제적인 조직 방법이라고 경험으로 흥킹 Procurement functions, in their separate organizations, is an economical 되었음니다.

way to organize. However, we must realize that organization and 그러나, 금제와 관리는 동일하지 않다는 것을

management are not the same thing. The functional directorates are 알아야 합니다. 기능발 부서는 총체적 기관 관계에는

service organizations, which accomplish their missions without being 책임을 지지 않고 임부를 수행하는 기구입니다.

responsible for total system management. Lacking systematic program . 과기에는 체계적인 제휴관리의

management in the past, individual parts of program actions were 부족으로 계획 조계의 가분야는 사람부의 공제없이 독립적으로 안수 accomplished independently, without Command visibility. This situation 되었습니다.

created a management void, which permitted serious deficiencies to 에서 생각한 교육 가야 가지고, 이 그리고 대한 기계 있는데 이는 심과한 고점을 약가시켰고, occur and remain underected, with the result that the Command's 이를 가는데 가지고 이 가는 가지는 근기를 effectiveness was less than desired.

- The RPO is designed to correct these problems, and assure (海經론비기의심은 이러한 문제들을 수정하고 대부분의 기능,법 continuity of actions which involve many parts of the functional elements. 부정을 들자하는 첫 지가 게는데로를 하기 위하여 교안되어 있습니다. The concept is to provide system-oriented, intensive management of all "본 기계는 "과 기관가다 목수한 모든 계획의 기관병 집의적인 관리를 제공 of the programs peculiar to each individual system. Each RPO is 최도통 들어 없은 나무. 과 준 비기확실은 permitted only the minimum staff necessary to: correlate funding 화기 일반에 필요한 의소의 오면을 갖추고 있을 되다. 참호 연관 작공 prograza and quantitative schedules; establish objectives; oversee महा है। १३ है। महा 폭표 선정 3 progress of functional actions to accomplish objectives; make executive 를 위한 기능별 조기 목점의 기관; decimions to maintain overall program balance; and to assure that the 역 앞서울 위한 집행 의사 급경 되 그 하시 모든 '펫를 조치에 Co. .nd has visibility and management control of all program actions 대한 사업은 통해 및 관리 통계 확인. at all times.

authority of the TSARCOM Commander for executive, contralized life 행정적이고 집중적인 수명주기 관리에 대해보여 지원, 및 항공 문자 준비 cycle nanagement of assigned systems. The 220 would perform the 사업부 사업관으로 부터 위임된 권환을 수성합니다. 준비기과실은 Functions highlighted below. A more extensive list of responsibilities 하기 기능을 수명합니다. 적임 및 기능에 대한 보다 공립위한 표가 리능을 수명합니다. 적임 및 기능에 대한 보다 공립위한 표가 and functions may be found in the inclosures to this paper. 본 논문의 점부에서 나라나 있을 니다.

- 1. Provide users with a single contact point for resolving
- 1. 서용자에게 온영 일부 및 밝당된 기간의 준비인 영향을 주는 "problems affecting the operational mission and readiness of assigned 문제를 제공하기 위해 단인 연락소를 제공합니다.

systems. Coordinates with the RPO management team, functional elements 급체의 혹은 실제 문제 분야를 확인하고 때안을 받던 규정하여 and other activities to identify potential or actual problem areas, 때라 수강 조기를 심시하기 의학에 준비기회심 근리한, 기능설부시 및 develop and define alternatives, and to initiate appropriate corrective 기타기관과 검포합니다.

- 2. Perform incensive, centralized management by relying on
- 2. 할당된 활동을 수행하기 위해 부디지원 및 항공 등자준비
  TSARCOM functional elements for execution of their assigned activities.
  사령부의 기능별 부서에 의존하여 집약적이고 집중적인 근략을 실시합니다.
  Integrate all segments of production, maintenance, supply support,
  기관 수경주기를 등한 적절한 계획 근형 및 기원을 확인하기 위해,
  training, etc., to insure proper program balance and support through생산, 정비, 보급지원, 돌련 등의 모든 문야를 통합합니다.
  out the systems life cycle.
  - 3. Plan, direct and control the allocation and utilization of
  - 3. 부역은 기관에 막혀 수명주기 관리 택결의 실기를 위해 자연의

resources for execution of life cycle management responsibility for 발발 기가 가지, 중제합니다

assigned systems. This includes, but is not limited to, the following 이번 막기 기능을 포함하지만 이에 구란되지는 않습니다.

## functions:

- a. Inputs requirements into the Army Materiel Plan and Five Year
- 한 소요를 우근지로 계획 및 5개년 방위계획에 무입합니다. Defense Program.
  - b. Prepares input to the budget for assigned systems, elg.
- P-Exhibits for APA/OPA funds and PARR and COBE input for OMA funds, 유고하고 기조 단/육 준 기탁조 당자금을 위한 전성등 및 육군은 영및 정비작품을
- c. Receives and controls program documents from higher head-의한 경우는 서자원과로 및 지역은 3.엔산경기 부입, (학) 출당된 기관에 관 quarriers persaining to assigned systems.
- 짝 상점분부로 부터 의 계획은서를 수량, 중제합니다.
  - d. Trapares an obligation plan for all items forecast for award
- (한) 의계연도 중 예상되는 모든 사항에 대비하여 책임계취을 준비 during the fiscal year. This plan is used as a management tool for 합니다. 본 계획은 기관책임자의 임구수 행을 과목하고, monitoring and measuring the performance of the system managers. 축정당는 관리도구로서 사용됩니다.
  - e. Executes the program by causing Procurement Work Directives
- (참) 조달업무부에서 계곡을 수립하여 가 기능별 부서가 필요한 to be issued and by tasking functional elements to initiate necessary "햄위지(기능입무료 할을으로써 계곡을 수 해합니다.
  - f. Monitors program status to insure funds are obligated in a
  - (박) 자금을 확보하기 위한 감독 계획성함은 소요품이 변충될 경우,

timely manner to meet requirements and reprograms funds. as necessary, 필요시 작시에 소요품 및 찌계취자금에 미쳐하도록 작성되어 있음니다. when requirements change.

- . 4. Provide overall managerial direction on all Product Improvement
- 4. 함당된 기관에 영향을 주는 전 생산들 증진개획에 관한 모든 관리Proposals (PIPs) affecting assigned systems.Insures preparation of지침을 제공합니다.생산물총진관리첩보보고의

Product Improvement Management Information Reports (PRIMIRS), budgeting 작성, 삼산물중진 계획 노력을 위한 자급의 예산 및 통제, 삼산물중집 계획 and control of funds for PIP efforts, execution of the PIP Program, etc. 실행 등을 확인합니다.

- 5. Determine need for aircraft grounding actions. Prepare,
- 5. 항공기 지상조치의 필요성을 결정합니다. 할당된 coordinate and issue Safety-of-Flight and Maintenance Technical Advisory 기관을 위해 안전비항 및 정비 기술조인전문을 작성, 협조, 발급합니다. messages for assigned systems.
  - 6. Hosts the Worldwide Aviation Logistics Conference (WALC). The
- 6. 세계항공근수회의를 주되합니다.
  WALC provides close control between TSARCOM and support elements over.
  항공군수회의는 보급, 페기처분, 정밀검사, 주요품목 및 아쎔부리의 반환과
  logistics functions such as supply, retrograde, overhaul and return
  같은 군수역할에 관해부터지원 및 항공물자준비사령부와 지원부시간에
  of critical times and assemblies.
  인접통제를 제공합니다.
  - 7. Serve on Data Requirements Review Boards, Contract Award
- 7. 작료소요 검토의원의, 계약의원의 등에 압부를 제공합니다.
  Boards, etc. Chair GFE Review Boards, Configuration Control Boards,
  에속된 기관을 의한 정부제공장비검토의원과, 컨피고테이션

user conferences, Vorldwide Aviation Louistics Conference subcommittees 용지되었다. 사용자회의, 세계항공문수의의 소위원의 용의 되장점을 말급니다. for assigned systems, etc.

- 8. Review and approve cost plans, procurement plans, macerial
- 8. 부어된 제재제 간대 시험 개최, 포함 기회, 표자 아진때지 개최. floiding plans. Integrated Logistics Support Plans, transition plans 용방문화제임 개최. 전환 개최 및 기파 기회을 참보, 중인합니다. and pulse plans percaining to assigned systems.
  - 5 Coordinate and approve all Modification Work Orders (MWOs),
- 아 보는 수립작업 팀명, 변경(먼저)요함, 수정작업명방의 때기 등급 raquestalior deviations (waivers), recission of MOs, etc. Monitor 업보, 쇼이랍니다. 수정작업

maintenance actions concerning MVO kit availability and application. 일당 기호 가용성 및 직용이 관한 정비 조지를 가득합니다.

10.—Brainste, review, coordinate and assure systems angulateion 2000年到 元外产制 지원의 있어서 각 기관이 심지도 제작되고 있으며 17 support of Foreign Military Salas is realisate and competible with 지원 및 취임과 임취하는 가를 증가, 경도, 경도, 및 추인합니다. US requirements and commitments.

IN Serve as the configuration manager on all configuration items 기관 관계를 의해 지장된 모든 전투구 웨이션 등록 에 대한

designated for systems management. 전체구했이션 작업자보서 근무합니다.

- \$2. Establish operational systems program priorities, particularly
- 고 다 다 보고 비용, 일부수 및 가치를 고 비파이 온 함께 가지 우선 an concerns cost, performance and schedules. 는 대통 설립합니다.
  - 13: Conduct integrated systems review and analysis to Assure
  - 15. 기값 거리 목욕을 밝성하기 위에 공장된 기관 리고 등 는식을

actainment of systems program objectives.

C. We strongly believe that the systems management approach is

다. 우리는 기간 간의 접근이 표을적이며 회과적으로 오늘날의 복잡한 the only way to efficiently and effectively manage the complex aircraft 항공기 기간을 간회하는 유입한 방법이라는 것을 확신합니다.
systems of today. Gosts have become so high that we simply cannot

비용이 상당히 급기 때문에 우리는 준 비계확실과 같은 afford to maintain an aircraft system without positive control under 단일 취임부서의 취급적 공계 없이는 단순이 항공기 기관을 정비할 수 a single manager such as the RPO.

없을니다.

IV. CONGLUSIONS

IV. 검 · 문

To be determined by participants in the Logistics Workshop. 교수 인수의 참가자들이 추루 결정할 것입니다.

Conclusions should be based upon the Workshop presentation and 결혼은 연수의 발표 및 표의에 기호하여야 합니다. discussion.

V. RECOMMENDATIONS

v. 긴의 사항

To be determined by participants in the Logistics Workshop.

군수 연수의 참가자들이 추루 급정함 것입니다.

Recommendations should support the conclusions.

건의 사항은 길론을 지지하는 것이어야 합니다.

attainment of systems program objectives.

C. We strongly believe that the systems management approach is

다. 우리는 기간 한테 접근이 효율적이며 효과적으로 오늘날의 복잡한 the only way to efficiently and effectively manage the complex aircraft 항급기 기간용, 관리하는 유유한 방법이라는 것을 확신합니다. systems of today. Costs have become so high that we simply cannot

비용이 상당히 들기 때문에 우리는 준비가되십고 같은 afford to maintain an aircraft system without positive control under 한 21 작업가 서의 경국적 통계 없이는 단순기 광공기 기간을 정비할 수 - a single manager such as the RPO.

없은 나타.

IV. CONCLUSIONS

iv. I

To be determined by participants in the Logistics Workshop. 군수 연수회 참가자들이 추후 결정할 거입니다.

Conclusions should be based upon the Workshop presentation and 젊돈은 인수의 방문 및 모의에 기조하여야 합니다. discussion.

#### V. RECOMMENDATIONS

v. 건 의 사 함

To be decermined by participants in the Logistics Workshop.

군수 연수의 참가자들이 추구 고정함 것입니다.

Recommendations should support the conclusions. 긴의 사항은 결혼을 지지하는 것이어야 합니다. attainment of systems program objectives.

십시합니라,

C. We strongly believe that the systems management approach is

다. 우리는 기관 관리 접근이 효율적이며 효과적으로 오늘날의 복잡한 the only way to efficiently and effectively manage the complex aircraft 항공기 기간을 관리하는 유입한 방법이라는 것을 확신합니다.
systems of today. Costs have become so high that we simply cannot

비용이 상당히 들기 때문에 우리는 준비구최십구 같은 afford co maintain an aircraft system without positive control under 단일 책임부서의 적극적 통계 없이는 단순히 항공기 기간을 정비할 수 a single manager such as the RPO.

없은 나라.

IV. CONCLUSIONS

IV. P P

To be determined by participants in the Logistics Workshop.

· 근수 연수率 참가자들이 추후 길정할 것입니다.

Conclusions should be based upon the Workshop presentation and 길론은 연수의 밝도 및 보의에 기호하여야 합니다. discussion.

#### V. RECOMMENDATIONS

v. 건의 사항.

To be determined by participants in the Logistics Workshop.

군수 연수의 참가자들이 추구 급정할 것입니다.

Recommendations should support the conclusions. 건의 사랑은 결혼을 지지하는 것이어야 합니다. ISSÚÉ: FLÝTNÓ KOÚK PROGRAM

본제 : 빌행시라계획

I. ÍNTRODUCTIÓN

I. 서본

The flying hour program is the basic management technique the U.S. 비행시간계획은 미속군이 오윈, 본론, 스티부돔 및 연료획득의 연택 Army uses to budget for annual requirements in the acquisition of 소요에 따라 에잔을 세우가 위하여 사용하는 기본적인 운영기술입니다. personnel, craining, repair parts and fuel. The flying hour program

is simply a statement of the hours we will fly each month by type 비행이나 개인/부터훈련을 의한 우리의 경신소요를 지원하기 위한 aircraft to support our peacetime requirement for administrative 다운한 기형에 다른 알밤 비행시간의 목록입니다. flights and individual/unit training.

## II. PURPOSE

## II. 목적

To provide ROKA information on one of the logistics management 항공임무용 안수하기 위한 예산의 발전 및 자산의 목독을 위하여 techniques we use to develop he budget and to acquire the assets to 우리가 사용하고 있는 군수운 영기술의 하나에 관한 자료를 한국육군에 accomplish the aviation mission. ROKA analysis may identify a similar 제공하기 위함입니다. 한국육군의 분석으로 그들의 항공자원 need for management of their aviation resources.
의 운영에 대한 유사한 필요성을 식별한 수 있을 것입니다.

III. DISCUSSION

## III. 토의

A. The importance of a flying hour program becomes very evident, 가. 비행시간계획의 중요성은 항공부터를 취실히 최원하기 의하여는 when we consider what we logisticians need to know, in order to properly 우리군수요란이 무엇을 알아야 하는 가를 고목히 들면 형목하여집니다. support aviation units. We know that we need to provide them with 부터는 우리가 그룹 부대에지 집당한 인표,

adequate fuel, ammunition, repair parts, new aircraft and trained 반약, 수 제부들, 새로운 항공기 및 적당수의 분면된 요원을 제공할 personnel in the proper quantity and at the time they need it to support 필요가 있으며, 동시에 그룹도 그룹의 권편 및 캠핑비행소요를 제공할 필요가 their training and administrative flying needs. How do we know the 있다는것을 알고있을니다. 우리는 어떻게 적절한 proper quantities and when they will need them? We can answer these 수량 및 언제 그룹 이 그것을 필요보 하는가를 아는가? 우리는 이를 문제 questions end others with a flying hour program. The basic key to 및 다른 것들을 비행시간계획으로써 답변할 수 있을니다. 이력한 문제에 answering these questions is knowing the number of hours the aircraft 따달하는 기본업쇄가 항공기가 비행할 시간을 아는 것입니다.

B. The process begins at unit and training command level when 나. 사명관들이 그들의 여산소요를 작성할 때 부대 및 분편사령부 commanders propers that budget requirements. As part of this process 주는 에시부터 과정이 시작됩니다. 이리한 과정의 일부로서 they identify their requirements for individual/unit training and their 그들은 가인/부대분면소요 및 그들의 행정기업적소요를 확인합니다. administrative flight requirements. Each level of the Army does the 모든 소요가 육군성에서 공합이

will fly.

same until all requirements are consoldiated at Department of the Army. 핆 여자기 유군의 가급부 때는 등입한 조기를 취합니다.

At this level, commanders' flying requirements are balanced against 이터한 수준 에서 사령근의 비장소요는 지독은 기급원에 따라여 조립되며 projected fund resources, and after necessary adjustments are made, a 필요한 스정이 있은 후 비행시간기획은 수를됩니다.

flying hour program is established. It provides guidance to aviation 는 기계은 항공부터 사람들에게 unit commanders on the number of hours they are authorized to fly to 그들의 훈련 및 행정임부를 달성하기 위하여 인가된 비행시간에 관란 accomplish their training and administrative missions. That same 지점을 제공합니다.

information provides a base from which aviation logisticians can identify 항공군수요권이 앞서 건글한 지원소요를 식별할 수 있는 기호를 제공합니다. the support requirements we mentioned earlier. For example, we know 에를 들면 파기의 강렬.

from past experience, testing, otc., how much fuel, ammo and repair 실험 등으로부터 접찍급 터의 1시간 비행을 지원하는데 21마의 연료, 판화 parts are required to support an hour of flight in a type helicopter, 및 수리부품이 소요되는 가를 알고 있을니다.

Simple extrapolation can give us a reasonable planning figure of the 단순한 추정으로 소요되는 지원의 합리적인 계획수치를 알 수 있습니다. support required.

C. We monitor our commanders' accomplishment of the flying hour 다. 우리는 항공기 제고, 상과 및 비행시간보고라고 분리우는 보고를 program through a report we call the Aircraft Inventory, Status and 용기어 사랑관의 비행시간계획의 수립을 감독합니다.

Flying Time Report. Each commander possessing aircraft assets is 항공기 자산을 보유하는 가가의 사형관은 비행시간

required to submit a monthly report on the hours flown end the status 및 그의 항공기의 상략에 관한 앞테보고를 제출한 것이 요구됩니다.

of his aicciaic. maintenance and supply times are shown so that we 우리가 군수체제가 그의 항공기를 어떻게 지원하고

can monitor how the logistics system is supporting his aircraft. 있는 가를 과목할 수 있도록 정의 및 보급시간을 나라냅니다.

D. This explanation of the flying hour program has been simplified 하. 비행시간 경략의 본 설명은 여러분들 어제 우리가 손기술을 사용하는 to give you a basic understanding of why we use this uschnique. 이유의 기본적인 이핵심 동기 위학이 단순확되었을니다. If it is determined that there may be a need for such a process in 파일 한국 유단에 그리라 파괴이 되오하다고 가장이 되면, 미유는 문제 ROKA, U.S. Army sources could provide a detailed explanation of this 등부분 문 제제의 자체가 살병을 때문함 수 있을 나다.

#### IV. CONCLUSIONS

IV. Ma

To be determined by participants in the Logistics Norkshop. 군추인수의 강마지를 가꾸는 이 부부에 급정함 것입니다.

Conclusions should be based upon workshop presentation and discussion.

- V. RECOMMENDATIONS
- V. 건의사항

To be determined by participants in the Logistics Workshop. 근수 인수의 강가지를 이 추후 급하를 것이니다.
Recommendations should support the conclusions.

견의사항은 젊모을 지기하는 것이어야 합니다.

ISSUE: MATERIEL FIELDING PLAN (PROJECT HANDOFF) 는 제: 교존하는데에게 계획 (전투 오프인)

I. INTRODUCTION

1. 서론

The material fielding plan is a new concept to improve the process 문자야전백의계획은 서로운 장비를 은용부대로 이동하는 구정을 개선 of transitioning new equipment into operational units. It is one of 하기위한 서로운 개념입니다. 그것은 통합 the key functions in the integrated logistics support concept. The 군수지원개념의 중요기능의 하나입니다. 문자 material fielding plan assurés that logistics support of a new system 아진배치계획은 자료은 체제나 소체제의 근수지원이 사용자에게 새로운 or subsystem is complete before the user is provided the new or 혹은 수정된 장비가 제공되기 이전에 물필없이 완료되도록 합니다. modified equipment.

II. PURPOSE

II. 목적

To inform ROKA logisticians of the material fielding plan content한국유군군수오원에게 문자야전력지계쪽의 내용 및 조적을 전답하기 and purpose. Analysis may result in a determination that the concept 위해서입니다. 본석경과 본 개념이 한국유군의 UH-1, AH-1 및 CH-47 항공기 has applicability to the fielding of the UH-1, AH-1 and CH-47 aircraft 의 약전배취에 극용가능하다는 결정을 가져올 수도 있을니다. in ROKA.

III. DISCUSSION

गा. इ.व.

A. The manerial fielding plan is used throughout the U.S. Army 가. 급자야진백체계쪽은 서로운 장비의 약간백시의 책임 및 회치를 Development and Material Rendiness Commana (DARCOM) to assign two-pon-할당하기 위하여 미유군 동자기방 및 준비사명부 전체(대한 작용됩니다.

aibility and accions for the fielding of new equipment. The plan

Satural command. 문자개화 및 준비사임부 및 최목부터에 의하여 소요되는 조시의 전환한

리장목록을 포함하니다.

- B. General contents of the plan are:
- भ. सुब्ब शुक्रवा भाष्ट्र ।
- 1. Section 1: Introduction.
  - 12 제기 회 : . 서본 스
  - a. Describes the purpose, general data, concepts, special factors
- (가), 개략의 독점, 일반 자료, 개념, 독별 요소 및 한지를 제출합니다. and Limiteactions of the plan.
  - 6. Concains a formal maseriel fielding agreement, signed by both
- (나) 쌍방부디에 의학이 시명된 공식적인 물차이건이용합점을 포함합니다.
  - 2. Section 2: End Item Weapon System Identification.
  - 2. 제2집: 암지종 확기체제 4발
  - a. Describes the characteristics of the end item and associated
- (가) 완재를 및 근건장비의 특징을 서울합니다. equipment.
  - b. Describes the major missions, level and  $\partial$  ansity for incended
- (나) 여정된 장비의 사용에 막힌 취임부, 수준 및 정도를 서울합니다. use of the equipment.
  - c. Contains dates and quantities of equipment to be deployed.
  - (학) 장비가 전기를 읽자 및 수량을 보충합니다.
  - 3. Section 3: Logistic Support Command and Control.
  - 3. 지 3 집 : 근는지원사령부 및 용제.

- a. Contains procedures for control of logistics support before,
- (가) 약진진개건, 전개층 및 전개후의 군수자원의 통계를 위한 during and after field deployment. 정치를 포함합니다.
- b. Describes the type, degree and timing of logistics assistance (나) 월드부대와 함께 배치되 기습요운의 수나 문자경함을 탈지/수정 to be provided, such as the number of technical personnel to be 하는 방법 및 조기사용자 문제 등과 같은 제공될 군수지원의 형태, stationed with the gaining command and the methods to detect/correct 정도 및 시기를 시출합니다.

material defects and early user problems.

- 4. Section 4: System Support Details.
- 4. 제 4 전 : 체제지원 세목,
- a. Describes in detail the concepts, procedures and actions that
- (가) 체제를 위한 전체군수기획 및 지원을 구성하는 기념, 결과 및 constitute total logistics planning and support for the system. 으치를 상출합니다.
  - b. Concains a description, plans, schedules and status for:
  - (나) 하기 사항에 대한 서울, 계획, 일정 및 상태를 보답합니다:
  - (1) Support Test Equipment.
  - (1) 지원 시험장비
  - (2) Supply Support.
  - (2) 보고지원
  - (3). Transportation and Handling.
  - (3) 수솜 및 쥐글
  - (4) Technical Data.
  - (4) 기층 자료
  - (5) Facilities.
  - (5) 시설
  - (6) Personnel and Training.
  - (6) 인사 및 훈련

- (7) New Equipment Training.
- (7) 건강비존면
- (8) Other special teams/personnel.
- (8) 다른 육수반/요원
- 5. Section 5: Contains the Acty Development and Material Rendiness
- 5. 제기점: "표진 및 지는 명세서"라고 블리우는 육군문자 기를 및 Gommend (Juncom) Commitment called the "Statement of Quality and Support 준비자명부 유학서를 포함하며 이것은 서로운 장비에 관하여 작성되는 공식 (SOQAS)" which is a formal written commitment (warranty) to be made with 적인 서면위탁장(보충서) 이며 고내용은:

respect to the new equipment that includes:

- a. The logistics support and services to be provided by DARJOM.
- (가) 문자계발 및 준비사령부에 의학에 제공되는 군수지원 및 업무.
- b. The cerms, conditions, period, implementation and administration
- 는 ) 위탁의 조긴, 상황, 기간, 수행 및 행정. of the commitment.
  - o. Section 6: Support Required From the Gaining Command.
  - 4. 제 6 값: 소요되는 혹독부 역로부터의 제안.

Describes the elministrative support required by DARCOM before, 을 자전기진, 전기층 및 전기부 에 문자개발 및 준비사령부 에 의학여 during, and after material deployment. Includes billeting, transportation, 소요되는 행정지원을 서울합니다. 숙소, 수송, 통신, 사무집보급품. communications, office supplies, labor, facilities, utilities, fuel 노동, 지살, 수드 등의 실비, 연료 및 장비를 포함합니다. and equipment.

- 7. Saction 7: Summary.
- 7. 제7 젊는 요약
- a. Summarizes the attatus of logistics support.
- 가. 군수지원상책을 외약합니다.

- b. Highlights major accomplishments or weaknesses of the system.
- (나) 체제의 주요 심규 혹은 약점을 강조합니다.
- c. Identifies significant issues to be resolved before, during
- (F) 약전박자 이전, 백자 중 및 백자구에 뜨겁하여야 할 중요한 oc after fielding. 는 제품 확인합니다.
  - पदा नायाचा । ।।
    - 8. Section 8: Appendixes.
  - 8. 제8 장 : 별기
  - a. Contains specific documents which authorize, justify, etc.
  - (대) 인가 및 정당성 등을 부연하는 특정문서를 포함합니다.
  - b. Plans and agreements on logistics support idems.
  - 나) 군수지원 놈목에 관한 계획 및 협정.
  - c. List of key correspondence.
  - (円) 주요 통신 목복.
  - d. Summary checklist of planned, timed, sequenced DARCOM actions.
  - (매) 기획된 시기가 역정된 연관된 물자기밥 및 준비사명부 조치의 요약표.
  - e. Summary checklist of data for the gaining command.
  - (마) 획수부드를 위한 자리의 요약표.
- C. Project Hand-off is a term we use which refers to the implement-다. 한도오드안은 장비가 실제로 획득부터에 "진단"를 때 우리가 사용 ation of the plan when the equipment is actually "handed off" to the 하는 계획의 수항을 연급하는 용어입니다.

receiving unit. It is the appropriate DARCOM command, TSARCOM or 세르운 장비가 틀립었이 군수지원되도록 하기 위하여 획득

AVRADGOM for aviation equipment, working side-by-side with the 부디아 함께 있하는 부디는 해당 물자기발 및 준비사령부인 부디지의 및 항공 receiving unit to insure that the new equipment is logistically sup-물자준비사령부, 혹은 항공장비를 위한 항공연구기발사력부 입니다.

parted. Skilled government, and possibly contractor personnel, are 속면된 정부요은 및 기약요원이 정비 및 공근 일부탁 복은 기술적

· assigned to a material fielding team which assists incividual unit 이거나 운영장의 문제해결에 군한 집무그윽면에서 작위되고 지원하는 돌사 personnul in on-the-job training in maintenance and supply casks,

and in the resolution of reclinical and operational problems. Our  $\mathbb{R}^{|\mathcal{R}|}$ 

experience has shown that baving a material fielding team on-site 아진보이면을 변장에 있지하는 것이 사로운 중비의 완전한 운영상템을 onables would ackieve out of a fully operational status with the name 신속적 작성간에는 것을 우리는 경험으로 압니다.

equipment. Personnel composing a material fielding toam to accomplish 한도으로만을 말청하기 위한 말하이건터워반을 구성하는 요원은:
Project Mandoff might include:

- 1. Team header an individual charged with specific responsibility
- 1. 반장는 불자약근백자계획의 완전한 수행의 복수책임을 지는 인원. and accompability for full implementation of the Maceriel Fielding

Flan.

- 2. Morbars of the New Equipment Training Toum (NETT) indiviousles
- 2. 건강적은 변반 오랜드 장이의 문영 및 정비에 관하여 부탁모인의 responsible for training unit personnel on the equipment operation and 훈련을 찍었지는 인원.

maintenanca.

- Design Engineer(s) individual(s) included, particularly with
- 3. 미자인 급칭보원 속이 신장비약 함께 어려한 장비의 결합의 new equipment, to provide on-the-spot engineering analysis of any 한당급병근기용 제품하기나 신화한 수업로써를 위하기 위하여 또합되는 equipment deficiency and to expedite corrective actions. 인원.
  - 4. Quality Assurance Team individual(s) to possible for insuring
  - 4. 공장 확인한 이진백제과경에 있어서 종장라시가 확실이 유계되므요

quality control is maintained during the fielding process. 작업지는 인연.

- 5. Supply Management Technician individual who assists the
- 5. 보급 온잉기습요원 보증사항의 수량을 포함하여 보급방정을 unit in supply administration, including implementation of the warranty 지원하는 인원. provisions.
  - 6. Maintenance Technician individual who will assist the unit in
- 6. 정비기출요원 신장비의 정비와 근련된 문제를 해결하는데 있어 resolving problems associated with maintenance of the new equipment. 부대를 지원하는 요인.
  - 7. Contractor Technical Representative individuals representing
- 7. 계약기술 대표 필요시 계약인을 대표하는인원이 그 반에 포함될 수 the contractor may be on the team, if required. 인유니다.
  - 8. Operational Unit individual(s) from the receiving unit to act
- 8. 운영린데- 등자약전체시 작전을 협조하기 위한 풋점으로서의 역한 as a focal point for coordinating macerial fielding operations. 을 하는 획득부터의 인원(들).
- IV. CONCLUSIONS
- IV. JI른

To be determined by participants in the Logistics Workshop. 군수연수의 참가자들이 추후에 결정할 것입니다.

Conclusions should be based upon the workshop presentation and discussion. 김론은 연수회 밝표 및 토의에 기초 바여야 합니다.

- V. RECOMMENDATIONS
- v. 건의작항

To be determined by participants in the Logistics Workshop. 교수 연수의 참가자들이 유후 급정할 것입니다.

Recommendations should support the conclusions. 건의사항은 결혼을 지지하는 것이역약 합니다. ISSUE: WORLDWIDE AVIATION LOGISTICS CONFERENCE (WALC)

는제: 색계 항국근수백의

I. INTRODUCTION

I. 서본

The Worldwide Aviation Logistics Conference (WALC) originated in 세기항공군수회의는 1967년에 "비공기순회지원회의"로서 시작되었 1967 as the "Closed Loop Support Conference." The name was changed in 임기다.

1973 to its present title. The program was developed by the Department 현재의 명칭으로 변경되었을 나다. 본 계획은 월날의 전투부대에 최적의 of the Army (DA) in an effort to provide optimum support to combat 지원을 제공하고, 또한 육근 군수 체제에서 선택된 주요 품목에 대한

forces in Vietnam, and provide intensive management of selected critical 집약적인 운영을 제공하기 의한 노력으로 육군성에 의학여 구밝되었읍니다.

items in ch "my logistics system. The program has proven so successful 본 기획의 글라는 너무나 성공 것이어서

that it has been retained and expanded to include all major commands 그 계획은 유지되고 확장되어 전 세계의 모든 주요 사령부를 포함하기 worldwide. 되었음니다.

II. PURPOSE

II. 목적

To provide ROKA with information pertaining to the annual Worldwide 한국육군에 인력 세계항공군수획의에 관한 자로를 제공하기 위합입니다. Aviation Logistics Conference (WALC).

III. DISCUSSION

III. 로의

A. The Worldwide Aviation Logistics Conference program objectives 가. 제계방공군수의의 계획의 목적은 :

are to:

- 1. Provide effective control of critical, serviceable, aircraft
- 1. 군수경로상의 중요 사용가능 항공기자산의 효과적 용제를 제공합니다. assets in the logistics pipeline.
  - 2. Insure timely availability of repairable assets at maintenance
- 2. 정비 분 핵검사시설에서 적시에 수 타가능한 자산을 취득할 수 있도록 overhaul facilities.

#### 합니다.

- . J. Reduce the backlog of unserviceable items at all levels.
  - 3. 모든 수준의 사용분가놈품묵의 제파를 즐입니다.
  - 4. Provide timely response to needs of operational units.
  - 4. 운영부교의 필요에 따하여 즉시의 반응을 제공합니다.
  - B. The WALC is conducted on an annual basis. The most significant
- 나. 세계항공군수획의는 연택적으로 고치됩니다. 가장 중요한 활동은 activity is the development, review, coordination and approval of the 향후 2년간의 항공기 정비 및 분략에정표의 개방, 재검토, 조정 및 등의 alrereft maintenance and distribution schedules for the comics two years. 입니다.

Cl no lass significance are user problem areas which are also addressed. 알면 발표되는 사용자문제 본야도 마찬가지로 중요합니다.

C. The Conference is announced by DA in a message approximately 다. 본 취임는 약 3개월 이전에 육군성에 의학여 전문으로 발표되며 three months in advance, and is addressed to all major commands having 액수진 항공기를 보유하고 있는 모든주요사령부에게 전략됩니다.

aircraft assigned. The place and time of the conference is stated in 피의의 장소 및 시간은 전문에 서술되면, 주의사령부에

the message, and preparation by the host command is begun. 의한 존계가 시작됩니다.

- D. Commands are invited to prepare and forward to the host command, 막. 사명부들은 가능한 빨리 그들이 직면하고 있는 어디한 문제 분약 및
- as soon as possible, a written description of any problem area they are 그들은 미리에서 그런되어 관장되지만 바라는 제안된 강공기 분 별의 기통

encountering and proposed aircraft distribution actions they would 서편으로 작성 주최사령부에게 제공할 것이 요랑됩니다.

like considered and resolved at the Conference. The host command then 주리 사람부는 이번만

addresses these problem areas, and provides the subject matter to ali 문제 분야를 발표하고 회의에 앞서, 모든 항석 여정자들의 숙고 및 준비를 expected attendees for their consideration and preparation prior to 의하여 그들에게 위제를 제공합니다.

the conference. The problems are addressed at the Conference, and 문제점들을 띄의에서 발모하여 모든 참석자들은 everyone attending is invited to contribute to the resolution of the 그 메란 문제 백경에 공헌할 수 있도록 합니다. problem(s).

E. After the WALC announcement, if all concerned do their homework 마. 세기 항공 군수복의 발표부, 트른 관련자가 그룹의 마제를 함하고 and respond to the announcement promptly, most problems and aircraft 발표에 신속히 응답함때 마위본의 문제 및 항공기 이동 일정은 격의 실제 movement schedules are resolved prior to the actual time of the 시간 이전에 학교됩니다.

Conference. The Conference itself, in the face-ro-date meeting of 회의 자제는 세계 가극으로부터의 인원들이 라운 보이서 individuals from worldwide, primarily coordinates most actions and 일자적으로 대부분의 조치를 조정하며 한급하여야 할 몇몇 문제를 예 irons out the few items remaining to be solved.
근하여 다엽합니다.

F. The Conference consists of a number of work groups each 바. 분 회의는 가가 특히 항공기 기관에 관련된 많은 작업반으로 dedicated to a specific aircraft system. Maintenance, Avionics, 구성됩니다. 징기, 항공 전자동학,

Armament and other areas are established as work groups to consider 루기 및 다른 분야들이 극정 문제 분야가 되요하다고 근두다는 작업반에 Specific problem areas as necessary. Work groups are the heart of the 학안 되었다. 구입한은 피의의 학상이다 7차적으로

·Conference and are comprised of knowledgeable personnel (experts) 주최사랑부의 전문요원 (진문가)들도 구성당니다.

primarily from the host command. Visitors to the Conference meet with 학자를 본 주입한을 만나게

the work groups and resolve problems and subscilling matters that may 길들과 관련된 문제와 양정문제를 핵결합니다.

pertain to toen.

' C. The work of the Conference is reviewed by a Senior Officer 마. 확인의 작업은 선임상과 경도위원회에 의하여 경로됩니다.

Roview Board (SORE). This board is composed of the senior officer 당 위원픽는 후의에 참석한 가 주요 사형부의

from each major command at the Conference. The board reviews each 신입장고로 구성됩니다. 당 위원과는 가 작업받의

work group!s decision and gives basic approval, requests additional 멸장을 당로하고 기본적인 등의를 하게 취가적인 자료나 회의 기존에 .

data of a revision as my be needed to most Conference standards. 맞추어 필요한 경우 수정된 요구합니다.

H. At the conclusion of the VALC, a General Officer Review 악, 세계 항공 군수회의의 젊론시 장성급 장고 검토위원의가

Board (GORB) is convened and it reviews the work of the Conference. 소집의 미 파이의 작업은 말로 하나다.

The CORP approves all items for publication and dissemination to 본 장성을 참고 글로귀관적는 육균 항공기 활동일상을 위한 작료를

paradolesating commands and activities requiring the data for scheduling 들으로 지는 참가 부터 및 기관에게 높은 및 전략함 모든 방투을 송인

Army Lindrait activities.

IV. CONCLUSIONS

IV. 경 콘

To be determined by participants in the Logistics Workshop. 군수 인수회 참가자들이 추후에 검정할 것입니다.

- V. RECOMMENDATIONS
- v. 건의 사항

To be determined by participants in the Logistics Workshop. 군수 연수의 참가자들이 추후 결정할 것입니다.

Recommendations should support the conclusions. 건의사항은 결혼을 지지하는 것이어야 합니다. ISSUE: INTEGRATED LOGISTICS. SUPPORT

논제 : 공항군수지원

I'. INTRODUCTION

I. 서본 . .

Integrated Logistics Support is a relatively new concept and 중합군수지원은 비교적 쓰르운 개념이며 군영기송입니다.

management technique. The U.S. Army uses it to insure that all of 미유교은 지원소요에 있어서 리스터용으로 되다

the support requirements for a new system or modified system are 성과를 엄기위하여 새로운 제제나 변형된 세계를 위한 모든 지원소요가 integrated and evaluated to get the most performance for the least 용합금가되도록 하기 위하여 본 기술을 사용하고 있습니다.

cost in support requirements. It is applicable to new developments 그것은 야단방지합파의 수정 뿐 아니라

as well as to modificiations of the fielded flagt. The culmination 서로은 기발에도 적용가능합니다. 좀 합군수지원의

of integrated logistics support is the successful fielding of an aircraft 구치는 모든 지원소요를 그때로 표확적이고 효용적으로 문자 항공기 기관을 system with all of its support requirements intact, effective and 성공적으로 아진백기하는 것입니다.

efficient.

II. PURPOSE

II. 목 즉

To inform ROKA of the integrated logistics support process for UH-1, AG-1H, CH-47 및 휴즈 500 K-D 등등 기의 기원 기획에 있어서

their possible adaptation and use in planning the support of the 한국육군이 점용 및 사용가능하도록 종합군수지원 점속한 한국육군역

UH-1, AH-16, CH-47 and Hughes 500 N-D girdreft. 양력기 외발입니다.

III. DISCUSSION

III. 또 의

A. Treatestated to the tipe Superior (113) is the process through 가는 존급단수지원은 모든 군수지원고 역사항통에 기타되어 제세의 which all logisture support considerations are planted and integrated . 제공 기자인 전체로 자연기에 다

into the initial design and/or reaction of a system. The process

begins with the country office in the system's life ovale and ends upon This A gat Tal This of Aghain This will stay the disposal of the system.

8. There are nine Central elements of ILS: Finilizies, Minter-는 공항군수지는 또는 우리의 입안으소가 있음니다 : 시설, 등이다. 보급 Neute, Supply, Personnel and Training, Transportation and Hindling, 인사 및 문헌, 수승 및 의료, 기술자조, 독수공구 및 시험장이, 근수지원 Technical Data, Special Tools and Took Equipment, Logistics Support 지원기를 및 근수지원은 일자본.

Remonese Minds and Logistics Support lineagement Information. Associatly,

T. Sies these elements into one support package which documes more 응기를 수 지원을 이러한 기소를 하나요. 기산단의로 음반하여 되었는 그것들이 attraction on them than they have received in the pase as individual 기고기를 이 파기 기파의 요소로서 받았는 것보다 이 병은 주의를 받게 elements. Logistics support considerations now receive the same high 단니다. 근수지원교회사항들은 이제는 항공기 기관의 항상 수 있는 반응의 I.v의 of strention that design of the strentic system might year, and 성소리 시문의 구의를 받는 이 그것은 항안한 것입니다.

 have become crucial to the decision to proceed with development or 화택을 진행하는 결정에 중요하지 되었을 나다.
angulation of a system.

C. In the U.S. Acmy, the NLS office is established at the Troop 다. 지우군 에서는 중갖군수지단합이 유지지만 및 성공공자준비스함부 및 Support and Aviation Marerial Readings Columna (TSASCOM). Nowaver, 설계됩니다.

the office not only supports TSU(DM, but it also provides TLS 본 지원성은 부터지원 및 항공통 배가경수도 지원할 뿐만하나의 항공연구 services for table delected by aviation systems devolopment project 객람사항부의 항공기관람인지획관의인의 의핵 신청된 파양을 위해 총합 managers in the Aviation Rusearch and Development Command (AVRADCOM). 군수지원업무를 제공합니다.

The ILS office plays is apportive role, on recuese, with the project 등 항문수 지원실은 기록관계인가 함께, 요청시, 지원임투를 수 함께니다. managers. Once acquisition of the system is complete and responsibility

의는 기관의 기반이 완료되고, 아닌에서기 제에 비를 위한이 for the fleided sistem is transferred to TiANCOM, 라이지S offic : 부때기관 및 장당을 가는 비사업부 에 강도보면, 중 방문수시원 같은 중 발문수 seumes full responsibility for integrated logistics sequence. 지원의 전 작업을 집니다.

D. The U.S manager has a myrian of functions which are outlined 다. 명합군수지원근리인은 발립에 요약된 디수의 일부를 수행합니다. in the inclusure. Detailed explanation of the function, 너 desired, 빨리지, 미국구근속부탁보수학 근 근속 이것은

mission effective with minimum support costs and other inefficiencies.

TV: CONCLUSIONS

w. 3 e

্ To be determined by participants in the Logistics Workshop. 그 문수인수의 참가자들이 추후에 고정합 것입니다.

Conclusions should be based upon the workshop presentation and 기본은 연수의 발표 및 보호에 기초 하기아 망니다.

#### V. RECOMMENDATIONS

v. 권의사항

To be determined by participants in the Logistics Workshop. 문수 연수의 탐가자들이 추후 결정할 것입니다.

Recommendations should support the conclusions.

ISSUF: RATIONALIZATION, STANDARDIZATION AND INTEROPERABILITY (RSE)

## 는 지수 라이파, 표준학 및 상호 운양성

#### I. INTRODUCTION

서 혼

The Rationalization, Standardization, and Interoperability (RSI)

합리학, 표준학 및 상후 문항성의 정적은 및 전환에 의해 사용되고, policy is used by the U.S. Government and is designed to strengthen 있으며 또한 복대서양 조약기구 국가들과 미국, 영국, 기가다 및 오스트템리와 the alliance capabilities among the North Atlantic Treaty Organization 유근들 간의 동당능력을 단지 국가 자원에만 의존하지 않고 연합 및 통합된 (NATO) Nations and the American, British, Canadian, and Australian 병력의 사용을 통하여 강화하기 위해 개혁된 것입니다.

(ABCA) armies through the use of combined and integraped forces rather

than depending solely upon national resources.

#### II. PURPOSE

목 적

In view of the emerging and expliciting ROKA aviation program, the 계속 출연, 확장되는 한국 육군 항공개회의 관점에서 불택, 기념 RSI concept would enable ROKA to take advantage of the following RSI을 판단해보면, 한국 육군은 기탁 등등극과 기들어 하기의 보고 우선순격을 priorities along with other allied mations: 이용할 수 있을 것입니다.

- A. Command, control, and communication systems.
- 가. 지휘, 통제 등 등신세제
- B. Cross-servicing of aircraft.
- 나. 항공기 지원업무
- C. Interchangeable ammunition.
- 다. 강희교체 가능한 분약.

D. Interoporable bactlefield, surveillance, target designation/ 항보 운영자는 전투자의, 강시, 목표지정/획득 체제. acq과항 화대 systems.

Standardization and interchangeability of components and 막자 구성을 및 에비 부품의 표근학 및 상호 고환성.

#### TIL. PISCUSSION

비

New Definition: Rationalization, standardization, and interoper-이 의: 합니다, 표준자 및 상호 운영성은 업격히 국가 ability is a means for enhancing Army and alliance capabilities through 자色단을 작용하는 것이 아니라 연합 및 통합된 통령의 자원을 작용함으로써 the use of combined and integrated alliance resources, as orposed to 육근부 등 등의 능력을 강상하기 위한 하나의 수단이다. those which are strictly national resources.

1. Rationalization: Any action that increases the effectiveness (* 합 의 작: 동대에 투입된 방의 작은의 보다 회문의 도는 of alliance forces through nove efficient or effective us. of deferse 회과적인 시항을 통하여 동맹군의 병력을 증가시키는 모든 조취, resources committed to the alliance. Rationalization includes con-합리라는 흥합, 상급 동맹소요에

realidation, reassignment of national priorities to higher altitude 다른 국가적 유선순위의 재배정, 표준회, 전문학, 상조지원, 송진된 needs, standardization, specialization, mutual support, improved 삼호 운영성 드는 보다 큰 합력등을 포함한다.

interoperability, or greater cooperation. Rationalization applies to 합편하는 무기/급자 작업 및

Doth Wespons/material resources and non-wespons maters. Essentially, 박물건 문제의 양자에 공학 작용된다. 근근적으로,

entionalization is the commitment of a government of tandardization 합의적는 표준의 뜻은 장한 문양성 보는 그것들의 역신 축합이 막긴 committee of the combination character.

- 2. Scandardization: Any process by which member notions aghined
- 2. 표 존 와: 의원로기를 등량포닉에서 최신의 실제적인
  the rio more practical cooperation chang forces; the most diffusions use
  참적은 이후에가 이를 모든 파일 고기가 연구, 개발 및 생산 자원의 가장
  of research, development, and production resources; and agree to adopt
  표일적인 사용 또는 가능한 가장 작년계 마기의 사망을 이용하는데 대한
  on the broad at possible basis the
- n. Corrow or conjuilite operational, administrative, and 그가, 보면기 또는 작가라 높임, 행정 및 교수 검색.
  Logistical procedures.
  - b. Common of compatible technical procedures and criteria.
  - 나. 보면적기기가 작품한 기수 취차 있 존기.
  - e. Common, compared to, or increasinguable supplies, compared as
- 다. 보인되어도 작승한 또는 상도 교육되면 보증된, 구성함, 무기 weapons, or equipment. 또는 장비.
- d. Common or compartitle tactional doctrine with corresponding 학. 조직적 취합성적 다르는 보편적이기가 취합한 전송 교육 organizational compartitity.

- A. Talescop resilled a Time and the or system in the A or fixed
- 3. <u>31.293</u>: 910 41.5%, 5%, 5%, 5.0% 5.0%

to provide survices to mer accept carvices from other systems, united. 부디 속을 생명 : 업무를 제공하거나 제공받으며 느쁜 교관된 업무보여 or forces and to use the services to emphasize to emphasize them to 장로 요시키를 운영을 가능되자는 농탁. operate allocatively togather.

Engage: An agreement or insure absence rust rout recept to be 5 기 전로 생고 기상소가 작곡의 작가를 상태의 노동을 would accord the notation of other countries reforming equipment. 수타하고를 사고하는 합점.

B. Gul of the Army: Support the Actional Lantion, shandard that 나, 요금의 극의: 한후의 조목인, 교수의 상호 용임성, 지위, tion, and interoperability of equipment amon, US and althoughth 등대 및 공신 등의 등의을 무으로써 기국의 등등록간에 중에서 emphasis on communition compatibility, locastical interoperation, 합니다. 고근학 및 상고 논양성을 기원한다.

O. Objective of RSI: Frable MVO and ASIX marters to operate 되는 PSI 의목보는 ARPU 및 ASIA 목가보 Y에를 진심에 conclusion in the most effected manner in time of wire and to main the T장 무섭히 방법으로 항체 작전을 취망하여, 연구, '편한, 식법, 소항, most of lictent and economic use of research, development, tear, pro-생산과 은양 및 지원 기술 등의 가장 또움직이고 강제적인 작용이 기능의 cureman, production, and operations and support cochains. During 지도는 안락.

peacer inc, cost savings can an achieved when duplication of the canal A 개구의 보통 제도운 31개의 박경교를 지방하는 것과 같은 등학원 무기 Wing of Contaction all contactions are selected as a selected all contactions are selected as a selected all contactions are selected as a selected a

mer die moerar.

D. The gamionalization, scandardization, and incorporability of

막. 교리, 소요, 질차, 전송 및 군부 등의 합리학, 표준학 및 삼호 doctrine, requirements, procedures, tactics and logistics is an essential 운영성은 현재 진행중인 장기 동등지획 및 최초의 조취에 를 통합시키는 prerequisite for integration of RSI into ongoing long-cerm alliance 데에 긴요한 선명조건이다.

programs and initiatives. Before agreements can be made on common 공통의 학표적이 (한약, 안로 등)에 대한

hardware (namunicion, fuel, etc.), agreements on software (concepts 합성이 이루어지기 전에 스프트웨어 (개념 및 교략) 제 대한 협정이 and doctrine) must be agreed upon. Without countries agreeing on doctrine 송인웨어의 한다. 교리 및 전투 개념에 동의하는 국가가

and fighting concepts, materiel requirements are extremely difficult to 없이는 골자 소요를 요즘확하기는 국가 어디다.

schadardize. RSI is not a separate program — rather it is a commitment RSI는 연고의 개통기 아니라 오히터 유덕 육군의 편에서

on the part of our Army to promote those actions achieving attiticy 통행구름 자리 등록 작전 등록을 확상하는 제반 행위들의 참여하는 것이다. to operate with its allies.

#### IV. COMMUSIONS

温 是

To be determined by participants in the Logistics Workshop.

균수 연수획의 참가자들이 수후에 결정할 것이다.

Conclusions should be back or weekshop presentations and discussion. 같은은 연수의 발표 및 모임에 기호하여야 한다.

V. RECONDENDATIONS

년 위

To be determined by participants in Logistics Workshop.

근는 연수의 참가자들이 무취에 괴장한 것이다.

Resignation of the should support conclusions. 긴의 사랑은 길론을 지시다이야 한다. IN OUR THREE DAYS OF MANAGEMENT WORKSHOPS WE WILL

DISCUSS MANY ISSUES. TODAY THE DISCUSSION WILL BE GENERAL IN NATURE AND DEAL WITH BROAD TOPICS. ON THE TWO SUCCEEDING DAYS THE DISCUSSIONS WILL RETURN TO THESE AREAS AGAIN ONLY IN GREATER DETAIL.

#### (TRANSLATION)

TOPIC OF THE ROKA AVIATION PROGRAM. THAT TOPIC IS

DIVIDED INTO A DISCUSSION OF THE COMBINED ARMS TEAM

AND COMBAT SERVICE SUPPORT. THE PRESENTATION WILL

CENTER AROUND THE ANALYSIS FOUND IN YOUR DATA BOOK.

## (TRANSLATION)

SLIDE OFF

- 1. DOES EVERYONE HAVE A DATA BOOK? (HOLD UP A COPY
  FOR VISUAL IDENTIFICATION).
  - 2. DOES EVERYONE HAVE THE MANAGEMENT WORKSHOP HANDOUT BOOKLET?

### (TRANSLATION)

PLEASE OPEN YOUR WORKSHOP HANDOUT TO PAGE 1. YOU MAY USE THIS TO FOLLOW THE DISCUSSION AND TO TAKE NOTES FOR YOUR USE IN THE FUTURE.

(TRANSLATION)

# COMBINED ARMS TEAM SCRIPT

SLIDE 2 ON THE FIRST TOPIC TO BE DISCUSSED IS THE

COMBINED ARMS TEAM CONCEPT.

### (TRANSLATION)

SLIDE OFF

WARFARE IN THE LAST 40 YEARS IS MARKED BY ITS CHANGES AND THE INCREASED DEADLINESS OF NEW WEAPONS. TODAY'S TANKS AND ARTILLERY ARE MANY TIMES MORE POWERFUL AND EFFECTIVE THAN THOSE OF JUST A FEW YEARS AGO.

## (TRANSLATION)

THIS PROCESS OF IMPROVING WEAPONS AND INCREASED LETHALITY IS NOT A NEW ONE. ANY STUDENT OF MILITARY HISTORY CAN POINT TO MANY EXAMPLES OF COMMANDERS WHO SLIDE 3 ON

SOUGHT TO IMPROVE THEIR WEAPONS AND CHANGE THE COURSE OF

SLIDE OFF

BECAME AN AIR AMBULANCE AND AERIAL PLATFORM FOR THE

ARTILLERY OBSERVER. AFTER THE KOREAN WAR, CARGO AND UTILITY TYPE HELICOPTERS CAME INTO FULL USE. MUCH PLANNING WAS DONE TO INCLUDE MORE CAPABLE FIXED WING AND ROTARY WING AIRCRAFT INTO THE PLAN FOR FIRE AND MANEUVER. IT WAS ABOUT THIS TIME THAT THE COMMUNIST NATIONS BEGAN DEVELOPING AIR DEFENSE WEAPONS AND BECAUSE OF THAT TERRAIN FLIGHT TECHNIQUES WERE FIRST DEVELOPED. HAVE NO OBJECTION TO DISCUSSION NOE AS A COMPONENT OF TERRAIN FLIGHT AND PERHAPS CLARIFYING EACH.

# (TRANSLATION)

SLIDE 5 ON IN THE REPUBLIC OF VIETNAM WE SAW HELICOPTERS

PERFORM IN EVERY ROLE. DURING MOST OF THAT CONFLICT THE

ENEMY DID NOT HAVE AIR DEFENSE WEAPONS. FOR THAT REASON

-WE-SET ASIDE OUR EFFORTS ON TERRAIN FLIGHT. ONLY LATE

IN THAT WAR DID THIS FLIGHT TECHNIQUE BECOME NECESSARY.

WE DISCOVERED THAT THE HELICOPTER COULD SURVIVE IN A

HOSTILE AIR DEFENSE ENVIRONMENT -- IF THE PROPER

TECHNIQUES WERE USED.

## (TRANSLATION)

SLIDE OFF

VIETNAM TAUGHT ALL OF THE ALLIED FIGHTING THERE SOME IMPORTANT LESSONS. PERHAPS THE MOST IMPORTANT WAS THE ROLE OF THE HELICOPTER ON THE BATTLEFIELD.

SLIDE 6 ON SOME LESSONS LEAPNED HAVE COME FROM OUR RECENT

EXPERIENCES AND EVALUATION OF WARFARE IN THE MIDDLE

EAST. THESE ARE:

(TRANSLATION)

CONCENTRATE FORCES. THIS CAN BE DONE; HOWEVER, THE

COMMANDER MUST MAXIMIZE HIS OWN WEAPONS CAPABILITIES WHILE

MINIMIZING THEIR VULNERABILITY TO THE ENEMY.

## (TRANSLATION) :

SLIDE OFF

SLIDE 8 ON

TWO, CURRENT TRENDS TOWARD MECHANIZATION MEAN

THAT MOBILITY IS THE KEY TO WINNING THE BATTLE.

### (TRANSLATION)

SLIDE OFF

SLIDE 9 ON THREE, WELL EQUIPPED SOLDIERS MUST ALSO BE

WELL TRAINED. THEREFORE, TRAINING STANDARDS AND TECHNIQUES

MUST BE CLOSELY MATCHED TO THE REALITIES OF THE BATTLEFIELD.

TO SUM THIS POINT UP THE WORDS OF A CHINESE PROVERB

SEEM APPROPRIATE. IT SAYS, "THE MORE YOU SWEAT IN

PEACE, THE LESS YOU BLEED IN WAR."

### (TRANSLATION)

SLIDE OFF

SLIDE 10 ON HAVING DISCUSSED THESE LESSONS BASED ON PAST

EXPERIENCE LET ME NOW DISCUSS THE PURPOSE OF THE COMBINED

ARMS TEAM. WE HAVE DETERMINED THREE DISTINCT PURPOSES.

## (TRANSLATION)

SLIDE OFF

SLIDE 11 ON THE FIRST PURPOSE IS THE ABILITY FOR THE GROUND

FORCE COMMANDER TO CONDUCT PROMPT AND SUSTAINED COMBAT.

TEH TWO KEY WORDS HERE ARE PROMPT AND SUSTAINED. THE EVER

PRESENT PROBLEMS OF GROUND MOBILITY IN KOREA ARE SOLUBLE

WITH AIRMOBILE FORCES. WITH THE HELICOPTER THE GROUND

COMMANDER CAN MOVE FORCES INTO POSITION IN MINUTES

INSTEAD OF HOURS. NOT ONLY CAN HE MOVE HIS ASSETS,

HE CAN REINFORCE THEM, FEED THEM, REFUEL AND RESUPPLY

THEM. THIS PROVIDES THE STRENGTH TO SUSTAIN COMBAT AND

TO EXPLOIT ENEMY WEAKNESSES.

(TRANSLATION)

SLIDE OFF

SLIDE 12 ON THE SECOND PURPOSE IS THAT THE COMBINED ARMS

TEAM PROVIDES THE GROUND COMMANDER WITH A WEAPONS SYSTEM
THAT HAS MOBILITY, FIREPOWER, AND THE STAYING POWER NEEDED
TO WIN THE FIRST BATTLE. AIRCRAFT CANNOT HOLD GROUND BY
THEMSELVES. THEY CAN, HOWEVER, DELAY AND FRUSTRATE

(TRANSLATION)

THE ENEMY UNTIL INFANTRY AND ARMOR ARE ON HAND.

SLIDE OFF

UNLIKE GROUND BOUND WEAPONS MOVING AT A PACE OF A

FEW KILOMETERS PER HOUR, AIRCRAFT CAN EMPLOY THEIR WEAPONS

ACROSS THE FRONT MOVING FROM PLACE TO PLACE AT 140 KPH.

AT ANY TIME AND PLACE THEY CAN EMGAGE MOVING OR STATIONARY

TARGETS WITH AREA FIRE AND POINT TARGET WEAPONS. THIS

ASPECT IS ESPECIALLY IMPORTANT IN TIMES OF MINIMUM WARNING

OF ATTACK.

#### (TRANSLATION)

SLIDE 13 ON THIS SAME MOBILITY ALLOWS THE HELICOPTER TO

QUICKLY DEPART THE BATTLE TO REFUEL AND REARM USING

FACILITIES SUCH AS THE FORWARD POINT, "FARP", WHICH ARE

CLOSE TO THE FRONT AND WILL HAVE THE AIRCRAFT BACK IN

THE AIR AND IN THE BATTLE IN MINIMUM TIME. THROUGH

ROTATION OF AIRCRAFT AND WELL PLANNED SCHEMES OF MANEUVER

THE GROUND COMMANDER CAN PLAN ON CONTINUOUS FIRE SUPPORT

FROM HIS AVIATION ASSETS.

#### (TRANSLATION)

SLIDE OFF

SLIDE 14 ON THE THIRD AND MOST CRITICAL PURPOSE IS THE

MOBILITY OF ARMY HELICOPTERS WHICH ALLOWS THE GROUND

FORCE COMMANDER TO DECISIVELY EMPLOY SUFFICIENT COMBAT

RESOURCES TO DETERMINE THE COURSE OF BATTLE AT THE TIME

AND PLACE OF HIS CHOOSING.

## (TRANSLATION)

SLIDE.OFF

NO LONGER IS THE GROUND COMMANDER BOUND UP BY POOR

COMMUNICATIONS OR IMPASSIBLE TERRAIN. WITH AIRMOBILE

FORCES AT HIS DISPOSAL THE COMMANDER CAN EMPLOY HIS

RESERVE OR EXPLOIT A WEAKNESS OF THE ENEMY AT THE

CRITICAL AND DECISIVE MOMENT. THIS ABILITY GIVES THE GROUND COMMANDER OF TODAY A CAPABILITY NEVER KNOWN

REFORE.

### (TRANSLATION)

SLIDE 15 ON THESE THREE PURPOSES OF THE COMBINED ARMS TEAM

MUST BE SUPPORTED BY STRONG OBJECTIVES FOR TRAINING. WE

BELIEVE THAT THESE OBJECTIVES SHOULD AS A MINIMUM INCLUDE:

# (TRANSLATION)

-- THAT TRAINING IN THE COMBINED ARMS TEAM BE GIVEN TOP PRIORITY.

# (TRANSLATION)

-- THAT THIS TRAINING DEVELOP AS A TEAM EFFORT CAPABLE OF INTEGRATION OF FIRE AND MANEUVER.

· (TRANSLATION)

-- AND THAT TRAINING MUST BE AS REALISTIC AS POSSIBLE.

SLIBE OFF

----(TRANSLATION) -

TO WIN IN BATTLE, SCLDIERS NEED THE BEST WEAPON'S

POSSIBLE. HOWEVER, THOSE WEAPONS ARE ONLY AS GOOD AS

THE OPERATOR. THEREFORE, TRAINING IN THE COMBINED ARMS

FEAM MUST STRESS INDIVIDUAL AND CREW PROFICIENCY. MORE

THAN THAT, THIS TRAINING MUST DEVELOP THE SKILLS OF THE SLIDE 16 ON

GROUND AND AIR COMMANDERS WHO WILL EMPLOY AVIATION ASSETS.

THE END RESULTS OF HIGH TRAINING STANDARDS FOR COMMANDERS
AND SOLDIERS WILL BE AN EFFECTIVE COMBINED ARMS TEAM.

## (TRANSLATION)

SLIDE OFF

IN CONCLUSION, IT MUST BE SAID THAT AVIATION ASSETS

CANNOT TAKE THE PLACE OF GROUND FORCES. ONLY THE INFANTRY

#### (TRANSL/TION)

BUT WITH THE DIFFICULTIES OF MOVEMENT THAT ROKA FACES

AND COMPARTMENTATION OF THE COUNTRY, THE COMBINED ARMS

TEAM CONCEPT OFFERS A MAJOR CAPABILITY TO THE GROUND FORCE

COMMANDER TO STOP AND REPEL ANY ATTACK.

### (TRANSLATION)

BEFORE WE BEGIN THE DISCUSSION ARE THERE ANY QUESTIONS?

# (TRANSLATION)

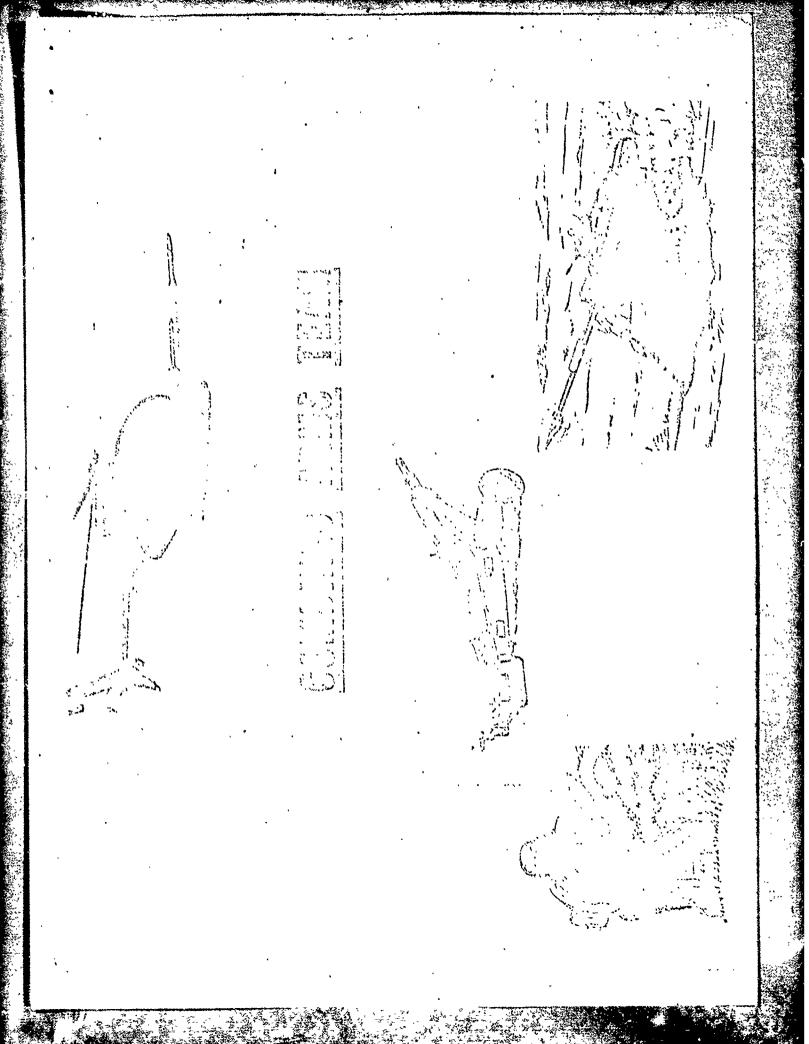
TO START OUR DISCUSSION THEN, I HAVE A QUESTION TO ASK.

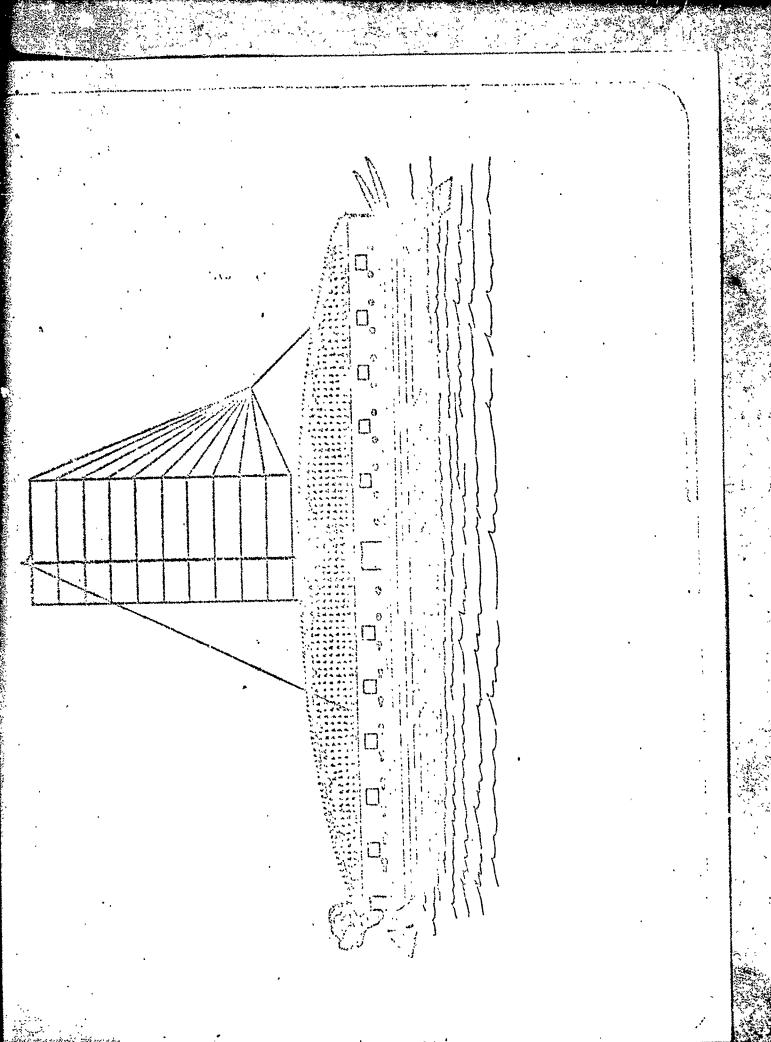
(TRANSLATION)

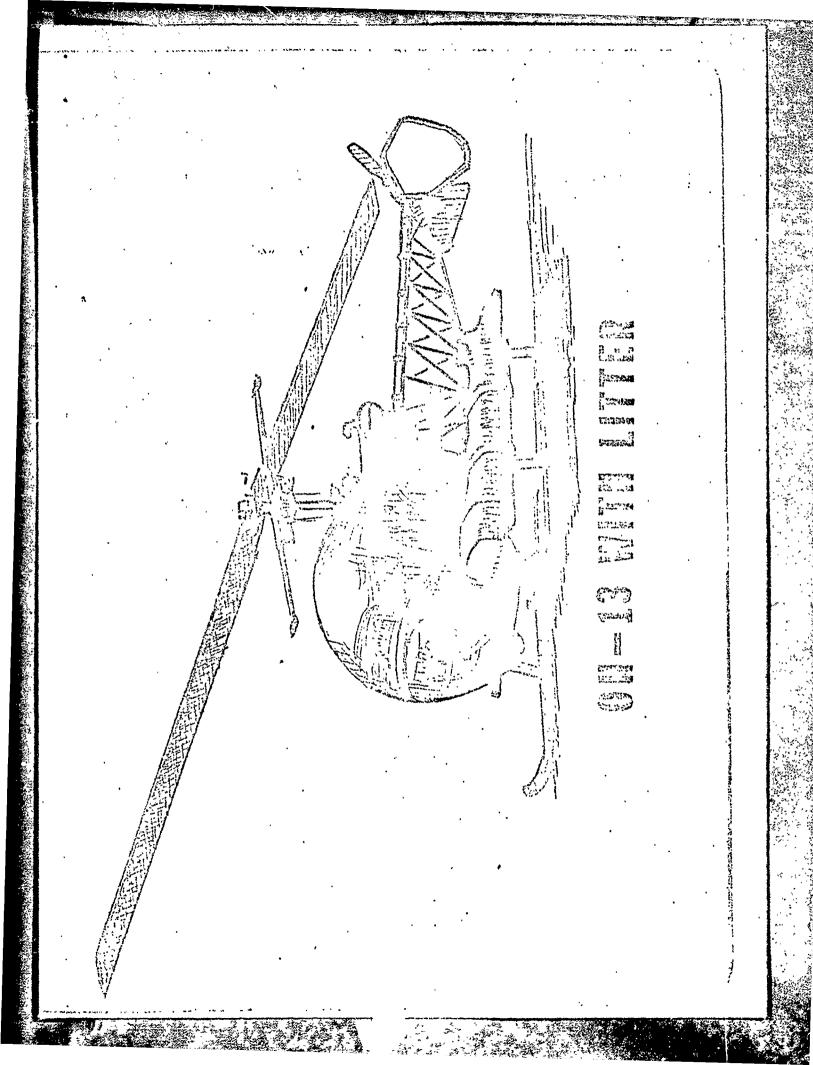
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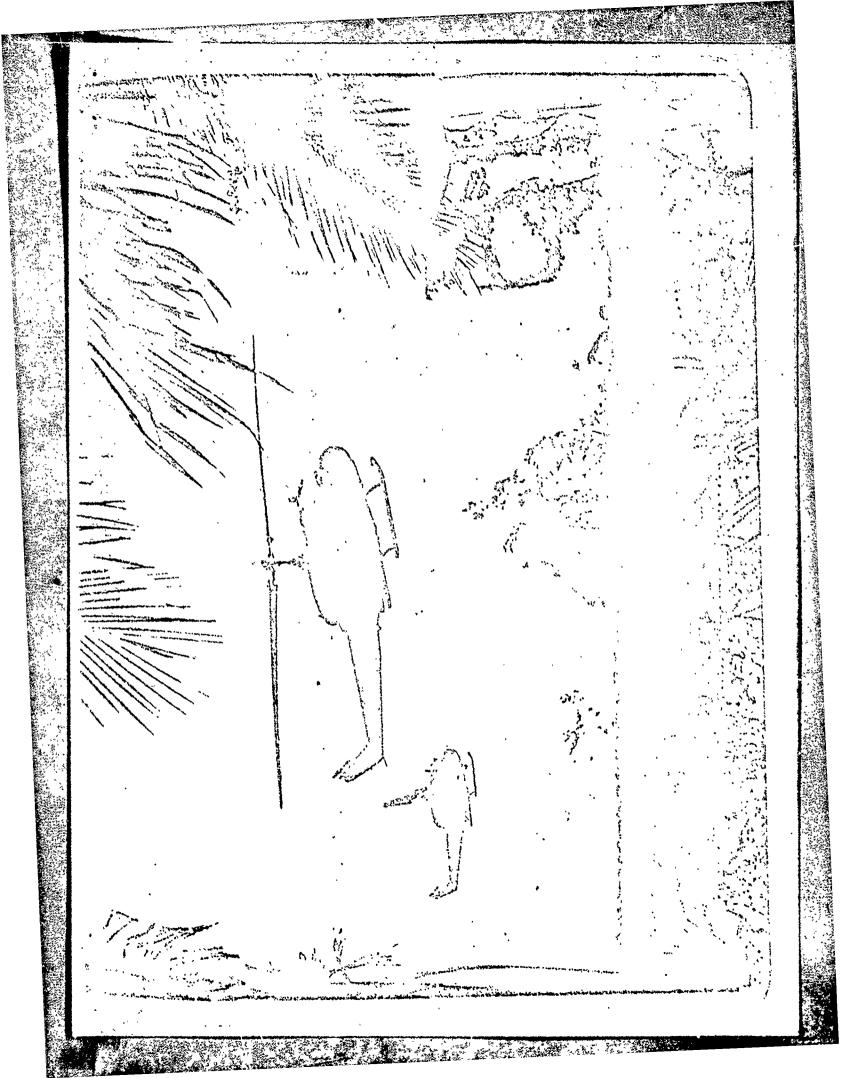
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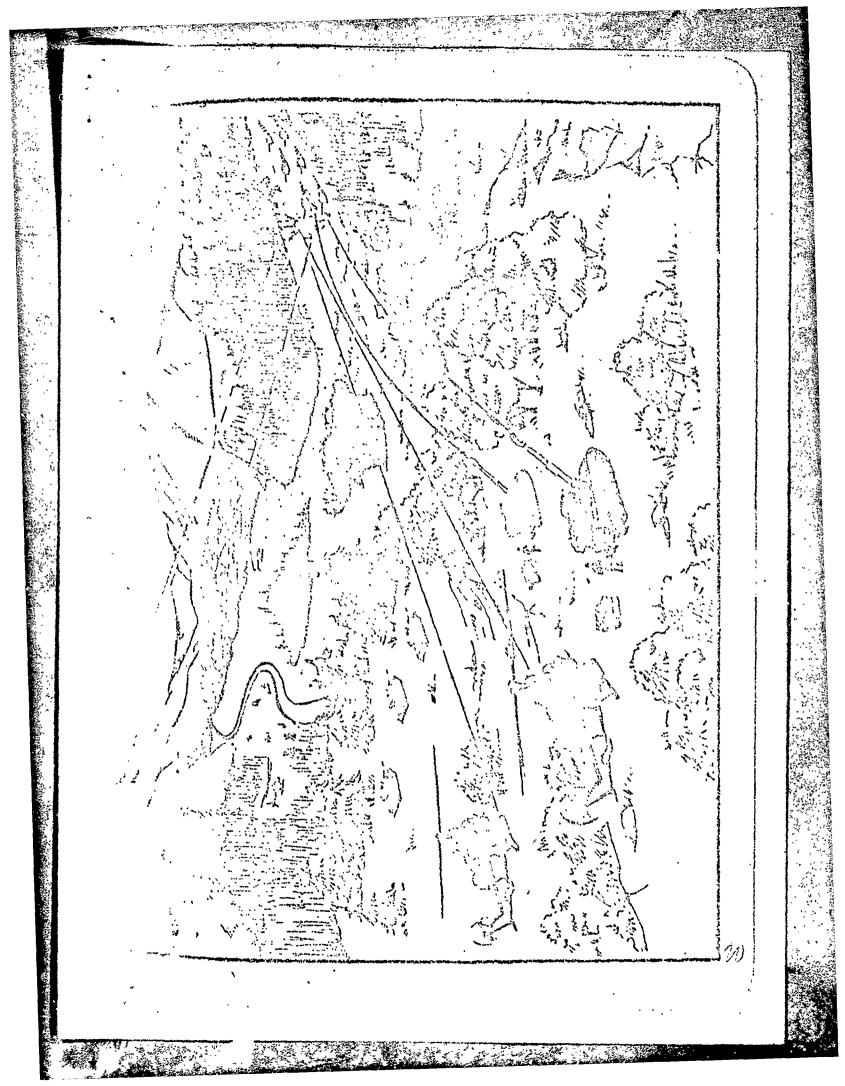
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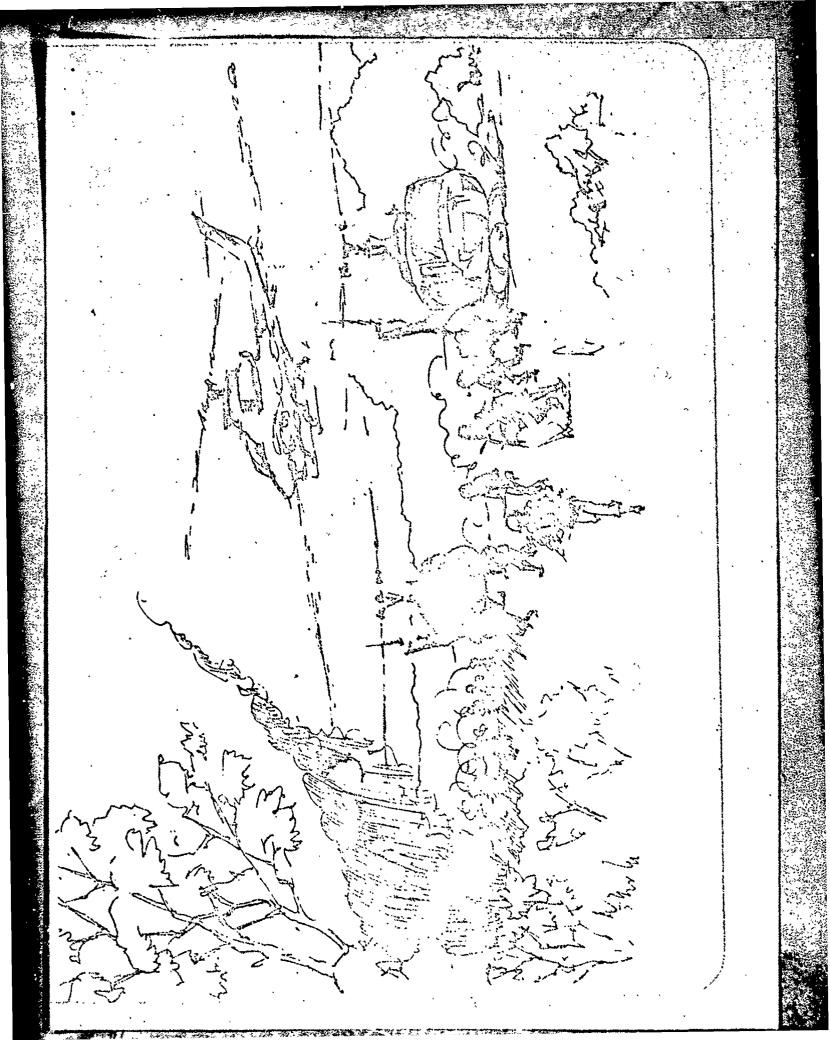
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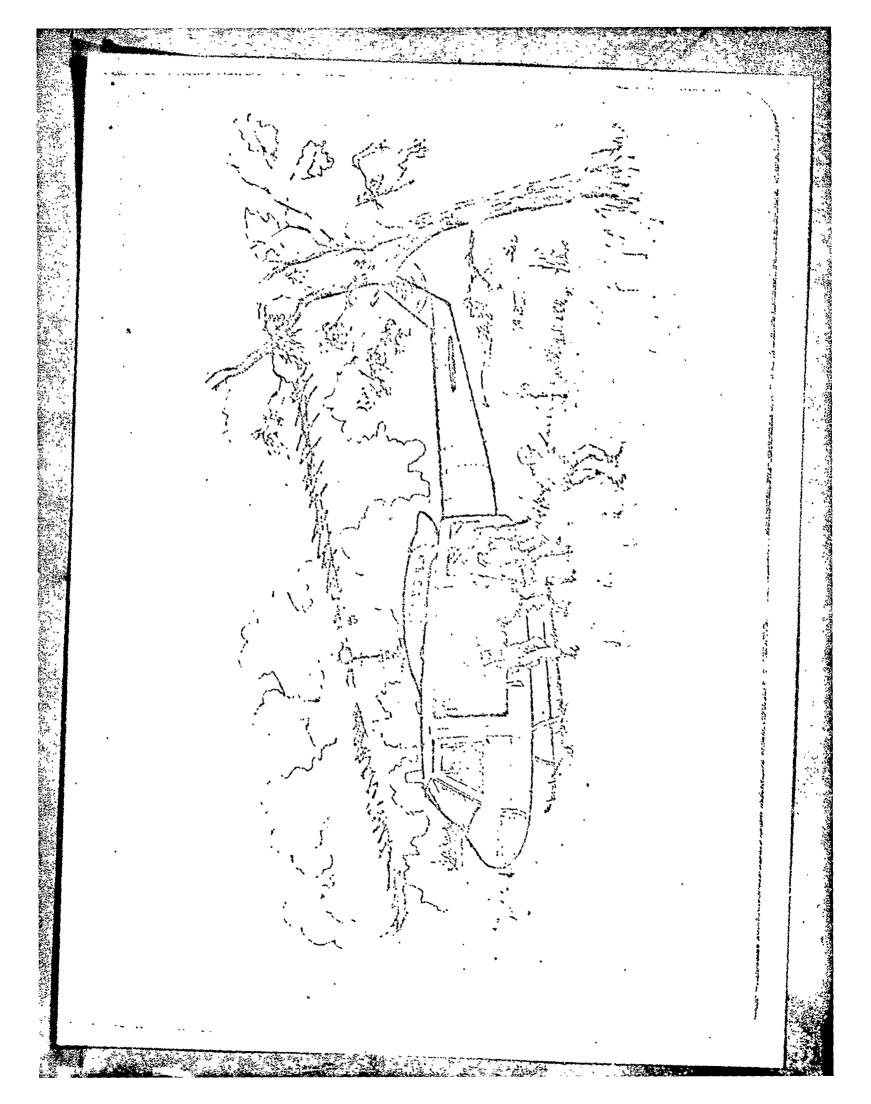
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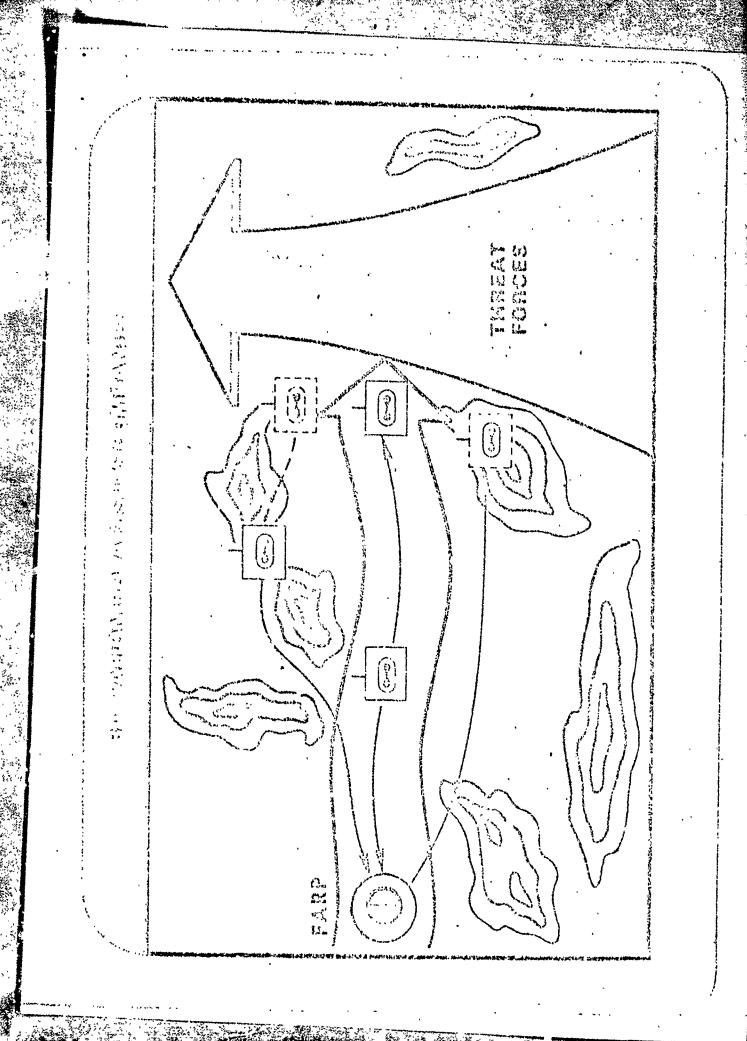


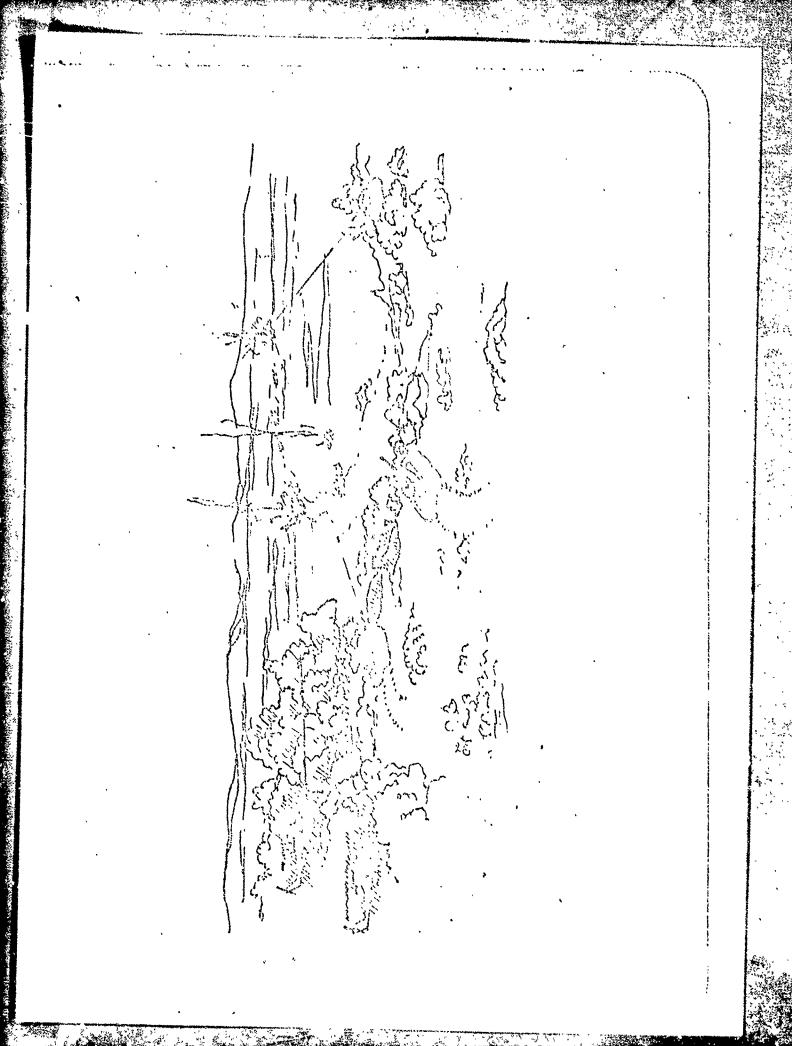


MISS SNOWN







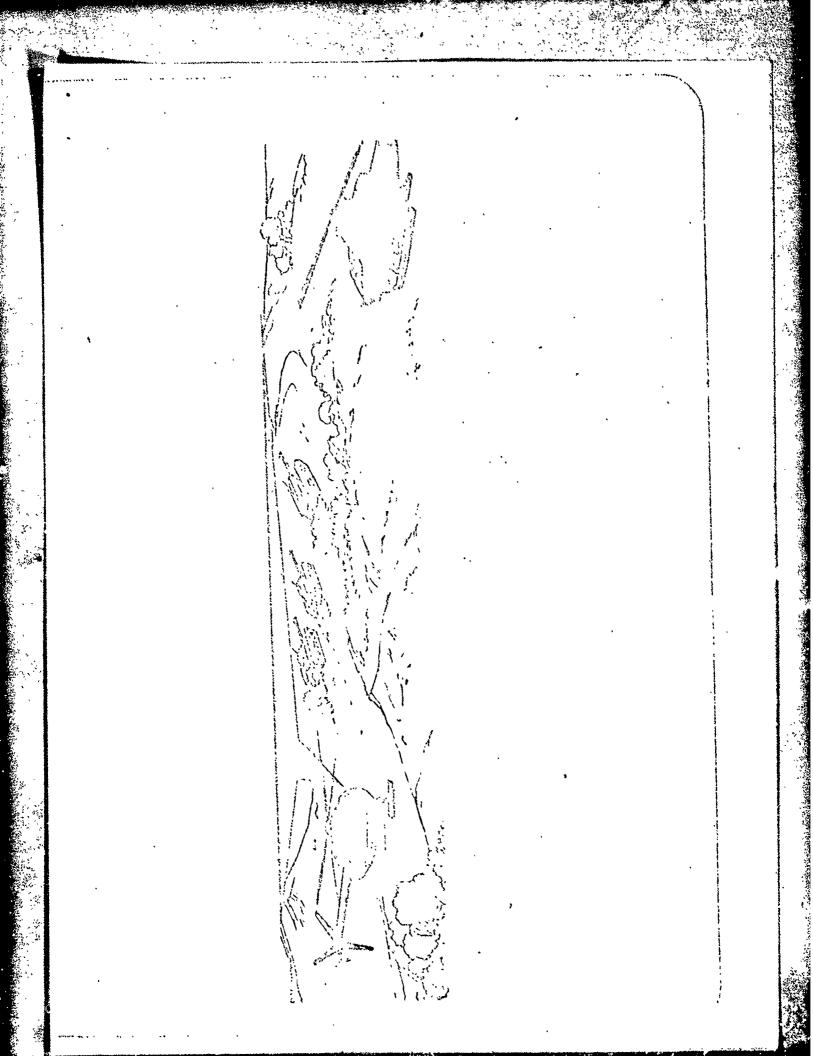


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### TOE 79 VERSUS 82 SCRIPT

SLIDE I ON WE NOW MOVE TO A DISCUSSION OF FORCE STRUCTURE.

DURING THIS PERIOD AND THE NEXT ONE WE WILL DISCUSS SOME CONSIDERATIONS FOR YOUR USE IN DEVELOPING THE TABLES OF ORGANIZATION AND EQUIPMENT AND FACILITIES.

### · (TRANSLATION)

SLIDE OFF

SLIDE 2 ON DURING THIS HOUR I WILL PRESENT SOME IDEAS

ABOUT HOW WE DEVELOP A TOSE AND WHAT ARE THE TESTS OF THE SOUNDNESS OF THAT ORGANIZATION.

### (TRANSLATION)

SLIDE OFF

IN 1976 OUR ARMY COMPLETED AN ASSESSMENT OF OUR ORGANIZATIONAL CAPABILITIES AND LIMITATIONS, CALLED THE AVIATION REQUIREMENTS FOR THE COMBAT STRUCTURE OF

THE ARMY. THIS WAS THE THIRD SUCH STUDY AND IS COMMONLY CALLED ARCSA III.

### (TRANSLATION)

SLIDE 3 ON ARCSA III DEVELOPED FORCE STRUCTURES FOR THE

1980'S WITH THE OBJECTIVE OF MAXIMIZING THE CONTRIBUTION

OF ARMY AVIATION EFFECTIVENESS AS PART OF THE COMBINED

ARMS TEAM AND MINIMIZING ADDITIONAL COST WHERE POSSIBLE.

### (TRANSLATION)

ARCSA III PLACED EMPHASIS ON THE ATTACK HELICOPTER

TO MEET THE THREAT WE ANTICIPATE IN A MID-TO-HIGH INTENSITY

BATTLEFIELD AND GAVE THE FOLLOWING PRIORITY FOR

ADDITIONS TO THE AVIATION FORCE STRUCTURE. FIRST PRIORITY

WILL BE GIVEN TO ESTABLISHING ADDITIONAL ATTACK HELICOPTER

COMPANIES. SECOND PRIORITY TO COMBAT SUPPORT COMPANIES --

WHICH WE USED TO CALL THE ASSAULT HELICOPTER COMPANY.

-THIRD PRIORITY GOES TO THE MEDIUM HELICOPTER COMPANY --

THE AIR CAVALRY TROOP AND FIFTH PRIORITY IS THE HELICOPTER

AMBULANCE COMPANY. WE WILL DISCUSS AVIATION MISSIONS AGAIN

LATER IN THIS HOUR.

### (TRANSLATION)

SLIDE OFF

THOUGH THESE PRIORITIES MAY NOT BE APPROPRIATE TO

THE THREAT IN KOREA, THEY DO ILLUSTRATE THE METHOD BY

WHICH ANALYSIS OF FUTURE REQUIREMENTS SHOULD LEAD TO

PRIORITIES FOR ACTION.

### (TRANSLATION)

LET US NOW BE MORE SPECIFIC AND GO INTO THE CONCEPTS

AND PROCESS THAT MAKEUP THE TASK OF FORCE STITCTURING.

(PAUSE)

THE MISSION OF ALL EFFORTS IN STRUCTURING ROKA AVIATION FOR 1982 AND BEYOND IS TO WIN ANY WAR THAT MAY COME. THIS IS DONE BY DEVELOPING DOCTRINE, DESIGNING ORGANIZATIONS, DEFINING OPERATIONAL AND LOGISTIC REQUIREMENTS FOR COMBAT SYSTEMS, AND TRAINING INDIVIDUALS. THE IMPORTANCE OF DOCTRINE IN THIS PROCESS IS THAT CONTINUED SUCCESS ON THE BATTLEFIELD IS DEPENDENT UPON CONSTANT REASSESSMENT OF OUR CAPABILITIES AND THE ENEMY THREAT. DOCTRINE IS THE METHOD BY WHICH THIS ASSESSMENT IS COMMUNICATED THROUGHOUT THE FORCES.

### (TRANSLATION)

SLIDE 4 ON THE FORCE STRUCTURING PROCESS BEGINS WITH

ANALYSIS OF THE MISSION. THIS ANALYSIS MUST INCLUDE AN

EVALUATION OF CURRENT WEAKNESSES AS WELL AS SINENGTHS.

AT THE SAME TIME STUDIES DETERMINE REQUIREMENTS FOR NEW WEAPONS SYSTEMS AND PRIORITIES TO BE GIVEN TO VARIOUS SYSTEMS. THE RESULTS OF THESE INITIAL ANALYSES ARE THEN USED TO DEVELOP THE OPTIMUM MIX OF COMBAT SYSTEMS AND FORCE STRUCTURE.

### (TRANSLATION

SLIDE OFF

SLIDE 5 ON THIS SLIDE SHOWS THE INTERRELATIONSHIP OF

STRUCTURE AND EQUIPMENT. FORCE STRUCTURE ASSESSMENT

MEANS THE ANALYSIS OF CAPABILITIES AND DEFICIENCIES.

FORCE DESIGN MEANS THE DEVELOPMENT OF INDIVIDUAL UNITS

AND THE DESIGN FOR A SPECIFIC MISSION, AREA OF OPERATION

OR STRATEGY. DYNAMIC FORCE ANALYSIS IS A FORCE EFFECTIVE
NESS EVALUATION TO DETERMINE THE BEST MIXTURE OF SYSTEMS

SLIDE OFF

SLIDE 6 ON THE RESULT OF THESE INTERACTING PROCESSES

WILL BE FOUR THINGS. FIRST WILL BE A BETTER UNDERSTANDING OF THE RELATIONSHIPS BETWEEN VARIOUS ORGANIZATIONS AND COMBAT SYSTEMS ON THE BATTLEFIELD. SECOND WILL BE AN EVALUATION OF THE CONTRIBUTION THAT EACH INDIVIDUAL SYSTEM OR ORGANIZATION MAKES TOWARD THE OUTCOME OF A BATTLE.

### (TRANSLATION)

THE THIRD RESULT OF THE PROCESS IS THE MOST EFFECTIVE MIX OF SYSTEMS AND ORGANIZATIONS. LAST, IS IDENTIFICATION OF THOSE SYSTEMS THAT WORK BEST TOGETHER AND THE EFFECT THEY HAVE ON THE ENEMY.

(TRANSLATION)

IN ADDITION TO THESE ANALYSES, MANPOWER REQUIREMENTS

OF WEAPONS SYSTEMS PERSONNEL REQUIREMENTS HAVE CHANGED.

THE BASIC INFANTRYMAN OF THE KOREAN CONFLICT MUST TODAY

BE A SKILLED WORKER KNOWLEDGEABLE OF BASIC TACTICS, TRAINED

IN THE USE OF COMPLEX TOOLS, MACHINES, AND WEAPONS.

### (TRANSLATION)

BECAUSE OF THE FUNDING RESTRAINTS THAT ALL ARMIES FACE

IT IS NOT POSSIBLE TO RECRUIT ALL THE PERSONNEL NEEDED TO

FILL ALL UNITS. THEREFORE A PART OF THE MANPOWER ANALYSIS

IS DETERMINING WHICH UNITS MUST BE FILLED THROUGH

REDUCTIONS IN OTHER UNITS.

([RANSLATION)

TO THE DEVELOPMENT OF A UNIT WITH A MISSION. THE FINAL

TEST OF THE FORCE STRUCTURING PROCESS IS WHETHER THE UNIT CAN ACCOMPLISH THAT MISSION. THEREFORE IT IS APPROPRIATE TO BRIEFLY MENTION THE MISSIONS OF ARMY AVIATION.

### · (TRANSLATION)

SLIDE OFF

SLIDE 8 ON ALL MISSIONS FOR ARMY AVIATION ARE BASED ON THE

KEY ADVANTAGE OF MOBILITY AND RESPONSIVENESS. AIRMOBILE

FORCES PROVIDE THE COMMANDER WITH A FAST REACTION FORCE TO

PERFORM BOTH DEFENSIVE AND OFFENSIVE ROLES. SEVERAL OF SLIDE OFF

THE MISSIONS THE AIRMOBILE ASSETS CAN PERFORM ARE:

SLIDE 9 ON FIRST, EXPLOIT MOBILITY. THROUGH THEIR MARKED

MOBILITY DIFFERENTIAL THEY CAN APPLY SIGNIFICANT COMBAT

POWER AT THE DECISIVE MOMENT. WHEN SPEED IS ESSENTIAL,

DISTANCES GREAT, OR TERRAIN RESTRICTIVE, AIRMOBILE FORCES

MAKE A SIGNIFICANT CONTRIBUTION TOWARD WINNING THE

BATTLE.

### (TRANSLATION)

SLIDE OFF

SLIDE 10 ON SECOND, MASS FORCES. THE HELICOPTER CAN ASSIST

THE GROUND COMMANDER IN RAPID MOVEMENT OF HIS FORCES

AND RAPID COMBAT SERVICE SUPPORT. COMBAT SERVICE SUPPORT

IS OF GREAT IMPORTANCE, AS OUR MODERN EQUIPMENT CONSUMES

VAST QUANTITIES OF SUPPLIES. THEREFORE, A HIGHLY

RESPONSIVE AND FLEXIBLE LOGISTICS SYSTEM IS NECESSARY.

ONE CH-47, FOR EXAMPLE, CAN CARRY ALMOST TWO TIMES THE

ARE NOT EFFECTED BY ROAD CONDITIONS AND BY USING

EXTERNAL LOADS CAN MAKE ALMOST INSTANTANEOUS DELIVERIES

AT THE POINT OF NEED.

SLIDE OFF

### (TRANSLATION)

SLIDE 11 ON THIRD, EXPLOIT SURPRISE AND FIREPOWER. THE

HELICOPTER CAN SEEK OUT AND FIRE ON THE ENEMY WHEN HE

IS UNPREPARED, USING ITS ONBOARD WEAPONS. IN ADDITION

IT CAN CALL FOR AND ADJUST ARTILLERY FIRES FROM A

VANTAGE POINT NOT AVAILABLE THROUGH OTHER MEANS.

### (TRANSLATION)

SLIDE OFF

SLIDE 12 ON FOURTH, SURPRESS ENEMY WEAPONS AND ACQUISITION

MEANS AND GATHER INFORMATION. AVIATION ASSETS CAN

ELECTRONIC SURVEILLANCE EQUIPMENT. WE KNOW THAT FUTURE
WARS WILL HAVE MANY WEAPONS USING RADAR GUIDANCE, AND
THAT THE ENEMY WILL USE ELECTRONIC WARFARE METHODS. ALL
COMMANDERS MUSI REMEMBER THAT THESE ELECTRONIC SYSTEMS
ARE TARGETS AND THAT HELICOPTERS HAVE THE MEANS TO

SLIDE OFF

SEEK OUT AND DESTROY THEM. THEY CAN MANEUVER TO BLOCK

ENEMY AVENUES OF APPROACH, AND AT THE SAME TIME PROVIDE

THE MOST CURRENT INFORMATION ENEMY MOVEMENT, WEATHER AND

TERRAIN. THIS CAPABILITY BECOMES MOST VALUABLE DURING

PERIODS OF BAD WEATHER WHEN HIGH PERFORMANCE AIRCRAFT

SLIDE 13 ON

CANNOT OPERATE. DURING TIMES OF REDUCED VISIBILITY AND Y

WHEN TERRAIN IS IMPASSIBLE TO GROUND VEHICLES, HELICOPTERS
SEEK THE ENEMY AND SUBVERT HIS SURPRISE ATTACK OR SUBTLE
WITHDRAWAL.

### (TRANSLATION)

SLIDE OFF

ALL OF THESE MISSIONS TAKE PLACE AS A PART OF THE COMBINED ARMS TEAM. AS SUCH AIRMOBILE FORCES PROVIDE FLEXIBILITY, MOBILITY, FIREPOWER AND STAYING POWER FOR CONTINUOUS OPERATIONS. PROPERLY UTILIZED, THE HELICOPTER IS THE KEY TO SUCCESS ON THE BATTLEFIELD.

### (TRANSLATION)

IN CONCLUSION, ROKA AVIATION IS IN THE MIDST OF CHANGE. THE DECISIONS MADE NOW ON FORCE STRUCTURE MUST BE MADE ON THE BEST ESTIMATE OF YOUR NEEDS AND THE

AND THE NORTH KOREAN THREAT. RESTRUCTURING DECISIONS
MUST TAKE INTO FULL ACCOUNT BOTH YOUR STRENGTHS AND

WEAKNESSES. PROPER PLANNING WILL ACHIEVE THE OPTIMUM
MIX OF PERSONNEL AND EQUIPMENT.

FINALLY, THE TEST OF THESE DECISIONS WILL BE THE TACTICAL ADVANTAGE PROVIDED BY AIRMOBILE FORCES.

### (TRANSLATION)

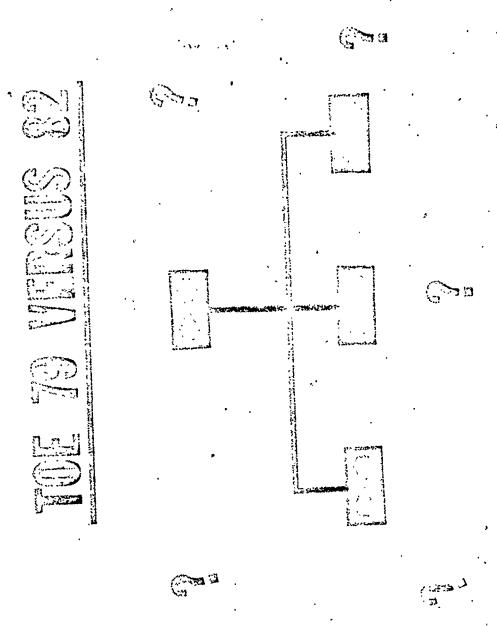
THIS DISCUSSION HAS ONLY COVERED FORCE STRUCTURING.

IN THE NEXT HOUR WE WILL COVER THE AREAS OF EQUIPMENT

AND FACILITIES. ARE THERE ANY QUESTIONS?

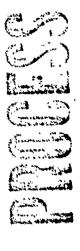
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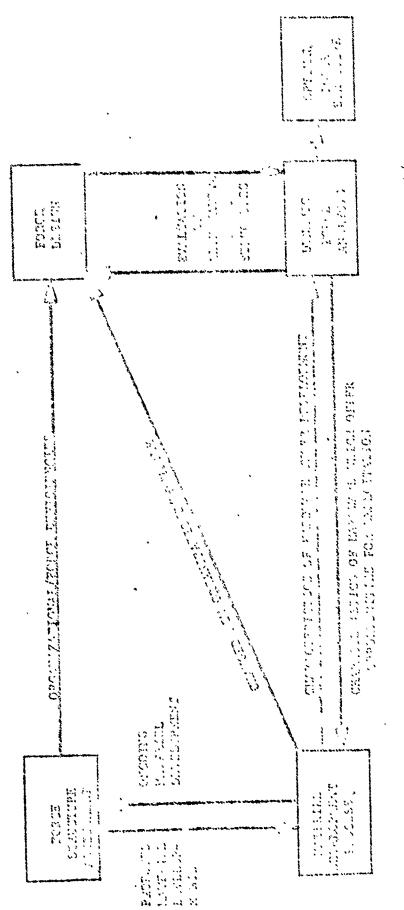
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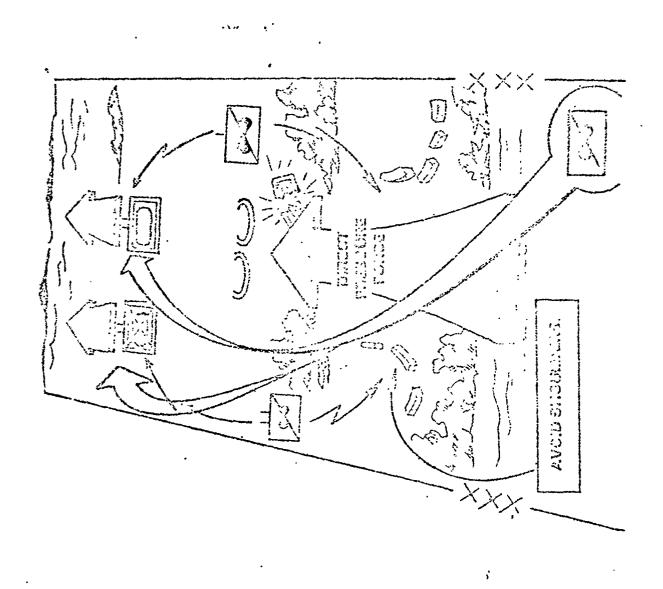
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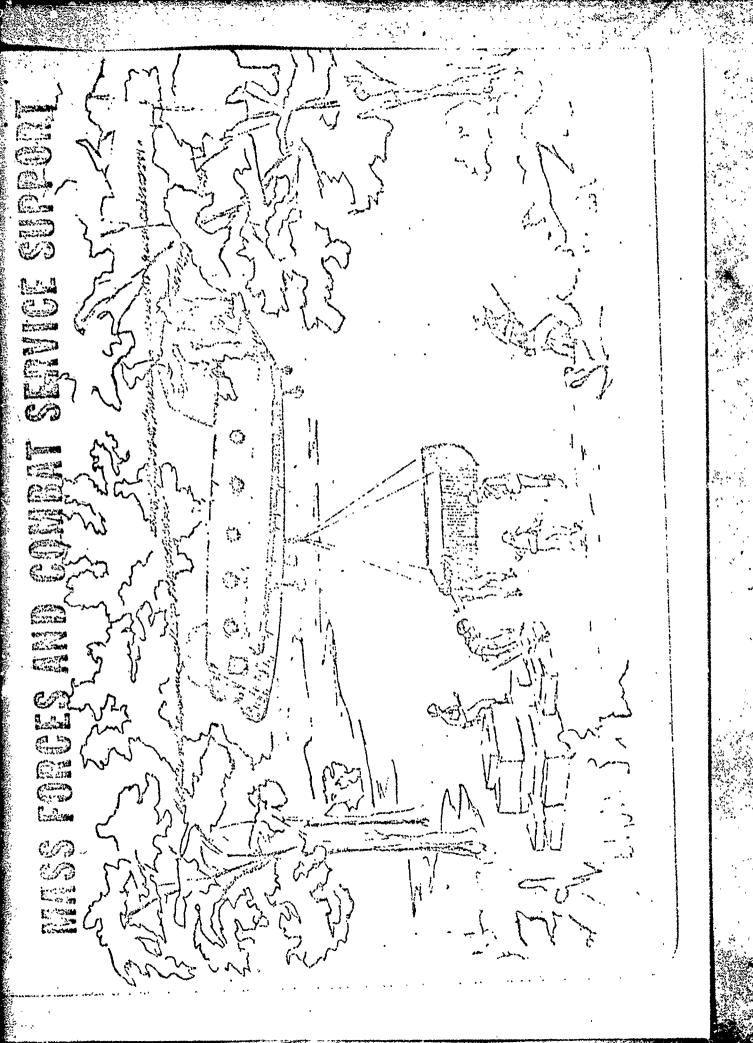
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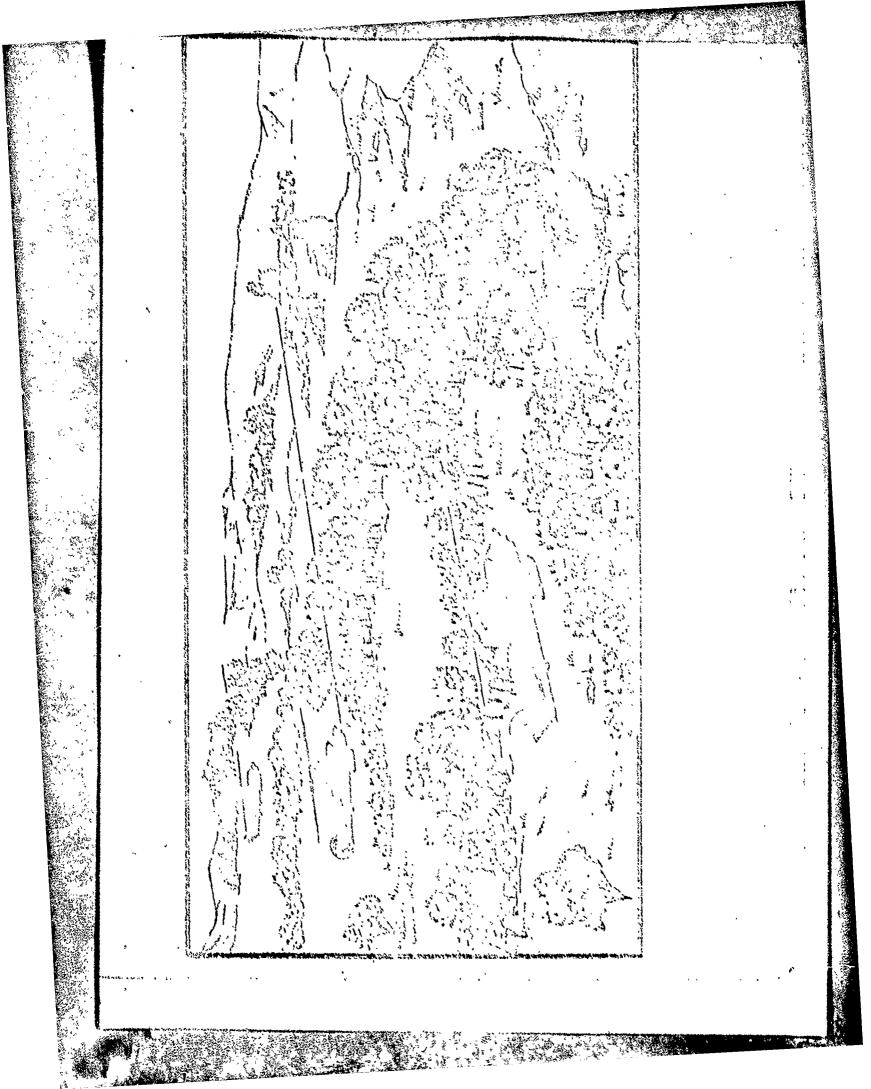
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#### EQUIPMENT AND FACILITIES SCRIPT

SLIDE 1 ON

IN THE LAST HOUR, WE DISCUSSED THE DEVELOPMENT

OF FORCE STRUCTURE FOR THE 1980'S. IN THIS HOUR WE WILL CONTINUE WITH A DISCUSSION OF THE EQUIPMENT AND FACILITIES ASPECTS OF YOUR PLANNING.

#### (TRANSLATION)

SLIDE OFF

SLIDE 2 ON

THE DECISIONS HAVE ALREADY BEEN MADE ON WHAT

AIRCRAFT WILL BE IN THE ROKA AVIATION INVENTORY. PLANNING FOR EQUIPMENT MUST NOT STOP AT THAT POINT. OUR EXPERIENCE IN THE EARLY DAYS OF THE VIETNAM CONFLICT TAUGHT US THIS LESSON. WHEN OUR UNITS ARRIVED IN VIETNAM THEY HAD AIRCRAFT AND SOME TOOLS AND UNIT MAINTENANCE EQUIPMENT. WE

HAD MADE NO PLANS FOR WHERE WE WOULD DO REPAIRS AND FOR

THE EQUIPMENT NEEDED. WE DEPENDED ON AN UNINTERRUPTED SUPPLY LINE AND SECURE BASES TO SOLVE THE PROBLEM. IN THE CONFLICTS OF THE FUTURE THIS SAME LUXURY WILL NOT BE AVAILABLE.

#### (TRANSLATION)

#### SLIDE OFF

THE FLUID SITUATION OF THE LAST KOREAN CONFLICT SHOULD INDICATE THAT ROKA WILL ALSO NEED TO BE PREPARED FOR SUSTAINED COMBAT WITH WHATEVER EQUIPMENT IS ON HAND IN UNITS. FOR THIS REASON, CURRENT PLANNING MUST STRESS THE NEED FOR EACH UNIT TO BE AS SELF SUFFICIENT AS IT IS INTENDED TO BE. UNITS WILL NOT BE ABLE TO COUNT ON PASSING A SPECIAL TOOL OR PIECE OF TEST EQUIPMENT FROM ONE TO ANOTHER. THE INTENSITY OF FUTURE CONFLICTS WILL

NOT PERMIT SOME OF THE AUSTERITY THAT CURRENTLY EXISTS.

(TRANSLATION)

SLIDE 3 ON TO BE MORE SPECIFIC, WHAT ARE SOME OF THE

TYPES OF AVIATION UNIT EQUIPMENT THAT MUST BE ON HAND IN SUFFICIENT QUANTITY IF THE UNIT IS GOING TO BE USEFUL? HERE IS A LIST OF SOME ITEMS THAT WILL BE CRITICAL. (SHOW SLIDE),

#### (TRANSLATION)

AS YOU CAN SEE FROM THE SLIDE, THESE TYPES OF EQUIPMENT RELATE TO THE TOTAL AIRCRAFT SYSTEM. IT IS JUST AS IMPORTANT TO REFUEL AND REARM AS IT IS TO KEEP THE AIRCRAFT FLYABLE. WE WILL DISCUSS THE SUBJECT OF TOTAL SYSTEMS INTEGRATION LATER TODAY.

(TRANSLATION)

SLIDE OFF

OPERATIONS. IT MUST ALSO BE REMEMBERED THAT THE UNIT MUST

MOVE AND COMMUNICATE. AS A PLANNING OBJECTIVE, EQUIPMENT

MANAGERS WILL NEED TO DETERMINE WHERE AND HOW THE TYPE
UNIT IS TO BE EMPLOYED AND THEN WHAT EQUIPMENT WILL BE

NECESSARY FOR IT TO ACCOMPLISH IT'S MISSION. THIS MUST

BE DONE WITH CONSIDERATION FOR THE NEED TO MAINTAIN MAXIMUM

#### (TRANSLATION)

ORGANIC MOBILITY.

ANY TOE. THIS PLANNING WILL DEVELOP AN ACCURATE PICTURE

OF BOTH THE UNITS MOVEMENT REQUIREMENT AND MOVEMENT

CAPABILITY. MOVEMENT PLANNING MUST INCLUDE TOE PERSONNEL

STRENGTH. AND THE WEIGHT AME CUBE OF BOTH TOE AND NON-TOE

CARGO AND COMMON ISSUE ITEMS, SUCH AS MESS EQUIPMENT.

(TRANSLATION)

SLIDE OFF

HAVING DETERMINED THE UNITS MOBILITY NEEDS THE REQUIREMENT EXISTS TO DETERMINE UNIT MOBILITY CAPABILITIES. THE DIFFERENCE BETWEEN THESE THEN BECOMES CRITICAL AS IT INDICATES A WEAKNESS OF THE UNIT, THROUGH THE NEED FOR OUTSIDE ASSETS. IN AVIATION UNITS THE ORGANIC AIRCRAFT MAY CARRY SOME UNIT EQUIPMENT, BUT SHOULD NOT BE COUNTED ON FOR SIGNIFICANT ASSISTANCE. IN THE SAME MANNER, SPECIAL MAINTENANCE VEHICLES WILL CARRY THE TOE EQUIPMENT ASSOCIATED WITH THEIR FUNCTION, SUCH AS SPECIAL TOOLS. BUT CANNOT BE CONSIDERED AS A GENERAL CARGO CARRIER.

(TRANSLATION)

A REQUIREMENT ALSO EXISTS TO TRANSPORT EQUIPMENT

AND SUPPLIES FOR ALL TEN (10) CLASSES OF SUPPLY. OF

PARTICULAR IMPORTANCE IS THE WEIGHT AND BULK OF AMMUNITION
AND FUEL. TO FINALIZE AND CONFIRM THIS PLANNING, UNIT
LOADING PLANS SHOULD BE PREPARED. THESE WILL IDENTIFY
ANY SHORTFALLS IN ORGANIC MOVEMENT CAPABILITY.

#### · (TRANSLATION)

SLIDE 5 ON IN ADDITION TO MOBILITY, COMMUNICATIONS EQUIPMENT

REQUIREMENTS MUST BE PLANNED. THESE MUST PROVIDE COMMAND

AND CONTROL. IN THE CASE OF AN AVIATION UNIT, BOTH AIR

AND GROUND COMMUNICATIONS ARE REQUIRED. THIS PLANNING

SHOULD INCLUDE ANTENNAS, SPEECH SECURITY DEVICES,

GENERATORS AND TELEPHONE EQUIPMENT. A TYPICAL RADIO NET

DIAGRAM AND TYPICAL WIRE NET DIAGRAM SHOULD BE PREPARED.

#### (TRANSLATION)

SLIDE OFF

SLIDE 6 ON HAVING DISCUSSED THESE GENERAL AREAS OF

CONSIDERATION THERE ARE TWO AREAS FOR SPECIFIC CONSIDERATION. THE FIRST OF THESE IS THE FUTURE ROLE OF THE ROKA FIXED WING AIRCRAFT FLEET. THESE AIRCRAFT OFFER A VALUABLE ASSET FOR TWO PRINCIPAL REASONS: ONE, THEY ARE LESS COMPLEX TO OPERATE AND LESS EXPENSIVE TO O' IE AND MAINTAIN; AND TWO, THEY HAVE A NUCH LONGER FLIGHT TIME THAN ROTARY WING AIRCRAFT.

#### (TRANSLATION)

WE KNOW THAT THE AIR DEFENSE THREAT WILL PREVENT FIXED WING AIRCRAFT FROM OPERATING CLOSE TO THE FEBA. TO THE REAR THEY OFFER INEXPENSIVE AND RAPID COURIER AND LIMITED RESUPPLY CAPABILITY,

#### (TRANSLATION)

A REAL POSSIBILITY IS THEIR USE IN 1 MAISSANCE AND REAR AREA SECURITY MISSIONS. THOUGH UNDER TO ENGAGE AN INFILTRATOR, AN O-1 PILOT CAN OBSERVE, REPORT AND REMAIN IN THE AREA UNTIL OTHER FORCES ARRIVE. WHILE PERFORMING THIS DUTY THE FIXED WING AIRCRAFT RELEASE ROTARY WING ASSETS FOR USE IN COMBAT. ALL OF THESE ADVANTAGES MUST BE BALANCED AGAINST THE AGE OF THE 0-1 AND U-6 FLEET. DESPITE THAT DISADVANTAGE THE FIXED WING FLEET OFFERS AN ADDITIONAL ASSET TO THE AVIATION MANAGER.

#### (TRANSLATION)

SLIDE OFF

THE SECOND AREA FOR SPECIFIC CONSIDERATION IS THE NEED FOR, PROCUREMENT OF, AND USE OF AIRCRAFT WITH

AIRCRAFT SURVIVABILITY EQUIPMENT. AS HAS BEEN PREVIOUSLY

MENTIONED IT IS REASONABLE TO EXPECT A THREAT FROM

SOPHISTICATED AIR DEFENSE WEAPONS USING ELECTRONIC AND INFRARED GUIDANCE. FOR THIS REASON AIR CREWS MUST BE TRAINED TO ANTICIPATE THIS THREAT AND AIRCRAFT MUST BE EQUIPPED TO OPERATE IN SUCH AN ENVIRONMENT.

#### (TRANSLATION) ~

SLIDE 7 ON THERE ARE FOUR (4) SIGNIFICANT AREAS IN

SURVIVABILITY EQUIPMENT. THE FIRST OF THESE IS

SIGNATURE REDUCTION. THIS MEANS THAT YOU MUST DO EVERYTHING POSSIBLE TO REDUCE THE ENEMY OPPORTUNITY TO SEE THE
AIRCRAFT OR ACQUIRE IT ELECTRONICALLY. TO DO THIS, THE
INFRARED SIGNATURE FROM EXHAUST AND OIL COOLERS MUST BE

# REDUCED, GLINT FROM WINDOWS REDUCED AND VISIBILITY

REDUCED WITH CAMOUFLAGE PAINTING.

#### (TRANSLATION)

SLIDE OFF

THE SECOND SURVIVABILITY MEASURE IS PROVIDING

WARNING DEVICES IN THE COCKPIT TO ALERT THE CREW OF

SLIDE 8 ON

RADAR LOCK ON. THE THIRD MEASURES ARE REALLY COUNTER-MEASURES. THEY INCLUDE: INFRARED JAMMERS, RADAR JAMMERS AND DECOY SYSTEMS WITH AUTOMATIC DISPENSING CAPABILITIES.

# (TRANSLATION)

THE LAST MEASURE IS TO USE TECHNOLOGY TO MAKE THE AIRCRAFT AS SURVIVABLE AS POSSIBLE. THIS INCLUDES UPGRADING BALLISTIC TOLERANCE, DRY RUN TRANSMISSIONS,

SINGLE ENGINE CAPABILITY AND ADVANCED ROTOR BLADE
DESIGN.

#### (TRANSLATION)

SLIDE OFF

ALL OF THESE AIRCRAFT SURVIVABILITY CONSIDERATIONS ARE NOT REQUIRED ON EVERY AIRCRAFT. THE REQUIREMENTS MUST BE TAILORED TO THE MISSION. FOR INSTANCE A 500 M-D WITH TOW THAT IS EXPECTED TO SPEND THE MAJORITY OF IT'S TIME CLOSE TO THE FORWARD EDGE OF THE BATTLE AREA AND UNDER CONSTANT THREAT FROM ENEMY WEAPONS MAY REQUIRE ALL OF THE SURVIVABILITY EQUIPMENT. ON THE OTHER HAND, AN AIRCRAFT THAT SELDOM APPROACHES THE FRONT MAY ONLY REQUIRE INFRARED SURPRESSION PAINT OR AN EXHAUST GAS DIFFUSER. THE IMPORTANT ASPECT OF THIS EQUIPMENT IS THAT IT DOES

NOT TAKE THE PLACE OF SOUND TACTICS. KOWEVER, ON THE BATTLEFIELD OF THE FUTURE AIRCRAFT WILL BE EXPOSED TO SOPHISTICATED ENEMY WEAPONS AND THOSE AIRCRAFT MUST BE EQUIPPED TO COUNTER THAT THREAT.

#### (TRANSLATION)

THIS COMPLETES THE TOPIC OF EQUIPMENT 79 VERSUS 82.

THE INTENTION OF THE EQUIPMENT MENTIONED IS NOT THAT THIS

LIST IS COMPLETE, BUT RATHER TO PRESENT THOSE AREAS FOR

CONSIDERATION, DECISION AND MANAGEMENT. WE NOW TURN TO

THE GROWTH OF FACILITIES. SPECIFICALLY, TRAINING AND COMBAT

SERVICE SUPPORT FACILITIES.

#### (TRANSLATION)

THE TRAINING WORKSHOP AND OUR SECOND MANAGEMENT WORKSHOP
WILL DISCUSS THE TRAINING FACILITIES IN DETAIL. THE PRIMARY

MANAGEMENT QUESTION TO BE ASKED IS, "WILL THE CURRENT

-FACILITIES PROVIDE THE OUTPUT YOU NEED?"

SLIDE 9 ON

IN CONSIDERING THAT OUTPUT THE EMPHASIS MUST NOT

BE COMPLETELY ON AVIATORS. TRAINING FACILITIES FOR CREW
CHIEFS, AND OTHER MAINTENANCE PERSONNEL, SUCH AS AVIONICS
AND ARMAMENT REPAIRMEN, ARE EQUALLY IMPORTANT.

. (TRANSLATION)

SLIDE OFF

IN ADDITION TO THE GROWTH OF TRAINING FACILITIES,

THE INCREASE IN AIRCRAFT WILL MEAN INCREASED COMBAT

SLIDE 10 ON

SERVICE SUPPORT FACILITIES. THE FLOW OF PARTS WILL CREATE

THE NEED FOR ENLARGED FACILITIES WITH INCREASED CAPABILITY

TO STORE PARTS, ISSUE THESE PARTS, RECORD THEIR USE, ORDER

A REPLACEMENT AND SHIP THE PART TO THE NEXT LEVEL OF

MAINTENANCE.

#### (TRANSLATION)

THIS GROWTH MEANS PHYSICAL FACILITIES AND TRAINED

PERSONNEL. LOCATION OF THESE FACILITIES MUST TAKE INTO CONSIDERATION BOTH THE TACTICAL SITUATION AND THE AVAILABLE TRANSPORTATION NETWORK.

#### (TRANSLATION)

SLIDE OFF

IN CONCLUSION, THE FORCE STRUCTURE PROCESS IS NOT COMPLETED UNTIL ALL EQUIPMENT OF THE UNIT IS PLANNED FOR.

MOBILITY AND COMMUNICATIONS REQUIREMENTS MUST BE DETERMINED.

IN ADDITION TO THESE THOUGHTS, AS MANAGERS YOU MUST

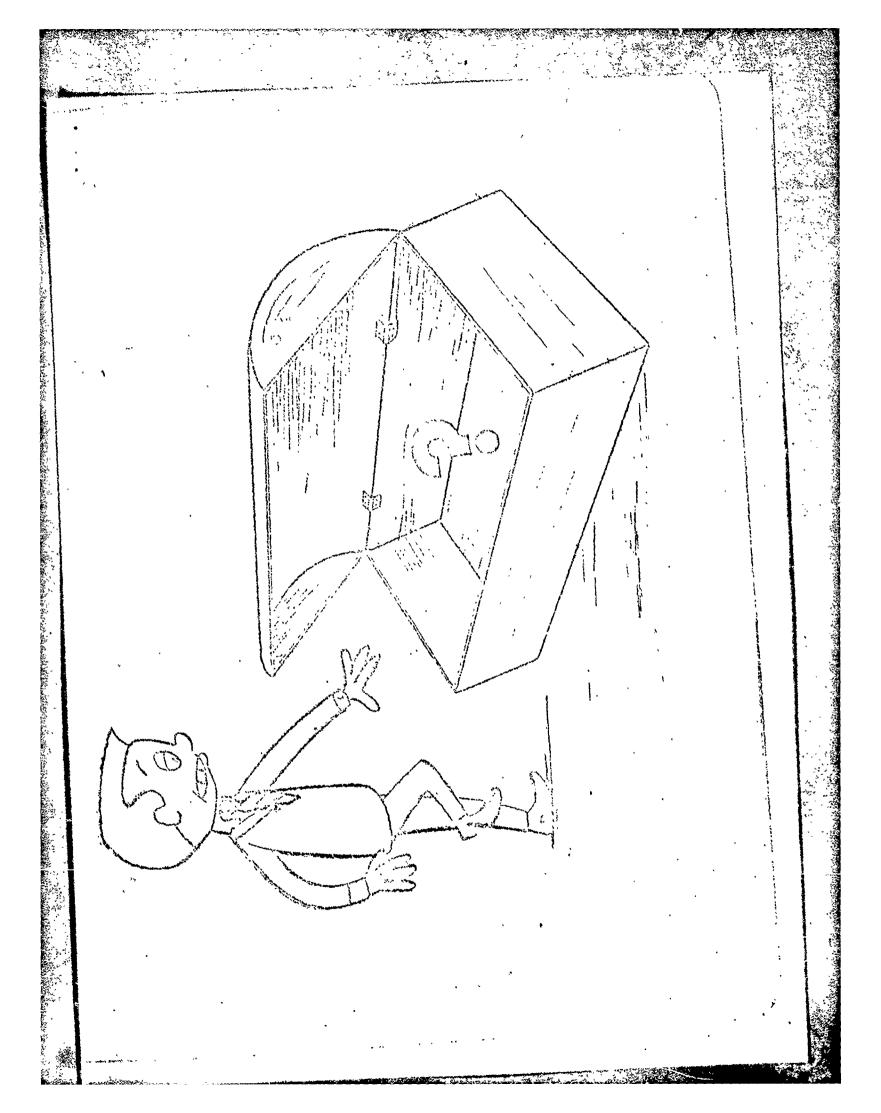
CONSIDER THE USE OF YOUR FIXED WING AIRCRAFT ASSETS

AND GROWTH OF TRAINING AND COMBAT SERVICE SUPPORT FACILITIES.

(TRANSLATION)

# ARE THERE ANY QUESTIONS?

-(TRANSLATION)

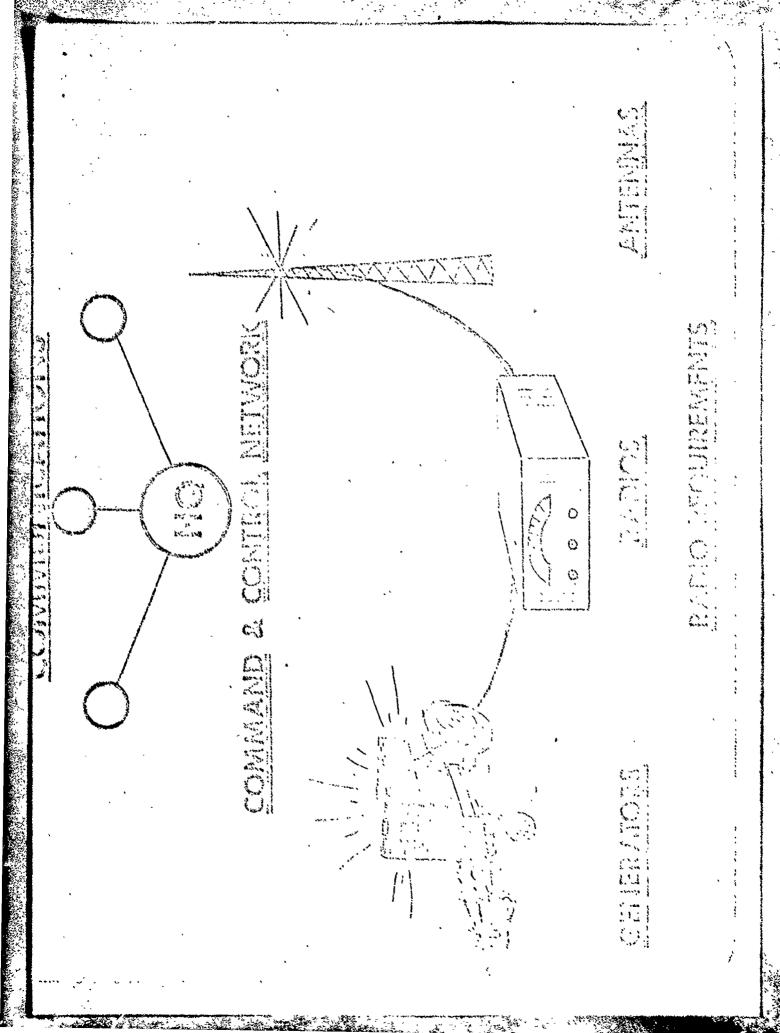


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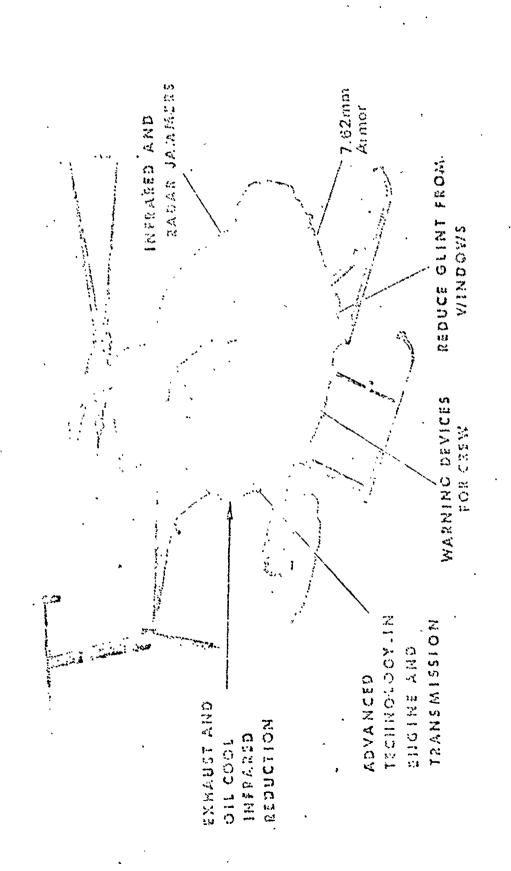
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## TOTAL SYSTEMS INTEGRATION SCRIPT

SLIDE I ON FOR THE NEXT TWO HOURS WE WILL DISCUSS A NEW

AND COMPLEX MANAGEMENT TOOL CALLED TOTAL SYSTEMS INTEGRATION. PREVIOUSLY, OUR ARMY HAS FIELDED NEW EQUIPMENT WITHOUT A FULL UNDERSTANDING OF THE IMPACT IT WOULD HAVE ON TRAINING. AND LOGISTICS. THIS LACK OF A TOTAL UNDERSTANDING OF THE ITEM OF EQUIPMENT HAS LED TO EXPENSIVE FAILURES. WE NOW RECOGNIZE THE NEED FOR A COORDINATED EFFORT ON THE PART OF THE DESIGNER. DEVELOPER, TRAINER AND LOGISTICIAN IN OBTAINING NEW EQUIPMENT.

#### CTRANSLATION)

SLIDE OFF

UNLIKE OUR PREVIOUS ISSUES WHICH TOOK ONLY ONE HOUR. THIS SUBJECT IS LENGTHY. I RECOMMEND THAT YOU DO NOT HOLD YOUR QUESTIONS UNTIL THE END, BUT RATHER ASK THEM AT THE

AND THEN THESE PRINCIPLES WILL BE APPLIED TO ROKA AVIATION.

#### (TRANSLATION)

DE 2 ON TOTAL SYSTEMS INTEGRATION IS A MANAGEMENT TOOL

INTENDED TO INSURE THAT WHEN A PIECE OF EQUIPMENT OR WEAPONS

SYSTEM REACHES THE USER IN THE UNIT ALL THE SUPPORT FOR IT WILL

BE THERE ALSO. THIS WILL LEAD TO TRUE COMBAT EFFECTIVENESS.

# (TRANSLATION)

INF OFF

MANAGEMENT CONCEPT ARE: FIRST, THAT OUR EQUIPMENT AND WEAPONS

SYSTEMS HAVE BECOME MORE COMPLEX IN NATURE. THEY COST MORE

TO PURCHASE OR MANUFACTURE AND THEY REQUIRE MORE HIGHLY

TRAINED PERSONNEL TO OPERATE. BECAUSE OF THIS COST AND

COMPLEXITY THEN WE SEE AN OBVIOUS NEED FOR BETTER TRAINING

TIME THEY COLUR. WE WILL TAKE A TEN MINUTE BREAK AT THE ENDOF THIS HOUR. MANY OF THE VIEW GRAPH SLIDES THAT WILL BE
SHOWN ARE THE SAME AS THOSE IN YOUR ISSUE PAPER AND HANDBOOK,
SO THAT YOU CAN REFER TO THEM LATER. LET ME ALSO STRESS THAT
THE TIME FRAME OBJECTIVES MENTIONED TODAY ARE FOR EXAMPLE
ONLY. ANDWARE NOT INTENDED TO BE RESTRICTIVE, BUT TO SERVE
AS A GUIDE. THEY DO NOT TAKE INTO ACCOUNT MANY FACTORS SUCH
AS CURRENT GUILLINGE OF THE ROKA GENERAL STAFF, WHICH WAS
UNKNOWN WHEN TO E DISCUSSION WAS PREPARED.

#### (TRANSLATION)

SYSTEM INTEGRAT ON 1 WILL TELL YOU OF THE REASONS THAT IT
DEVELOPME AND THEM RELATE THAT TO A WEAPONS SYSTEMS. AFTER
THAT WILL BE A LISCUSSION OF THE USE OF PLANNING MODELS,

AND A BETTER LOGISTICS SYSTEM. AS WE HAVE LEARNED THOUGHT.

THIS IS EASY TO SAY AND VERY DIFFICULT TO ACCOMPLISH.

### (TRANSLATION)

SLIDE OFF

SLIDE 4 ON

THE SECOND REASON TO CONSIDER TOTAL SYSTEM

INTEGRATION IS TO SHORTEN THE TIME OF ITEM ACQUISITION. THESE

DAYS IT IS NO LONGER POSSIBLE TO MAKE DECISIONS AND BUY AN

ITEM. CONTRACTS, AND BIDS, AND LAWYERS AND PAYMENTS ALL MAKE

A SIMPLE DECISION INTO A LONG COMPLEX BUSINESS. TOTAL SYSTEM

INTEGRATION CANNOT REDUCE TIME, BUT IF ALL ACTIONS FOR THE

VARIOUS NEEDS OF THE SYSTEM OCCUR AT THE SAME TIME THEN

ACQUISITION TIME SHOULD NOT BE LENGTHENED.

(TRANSLATION)

SLIDE OFF

-OBSERVING AND EVALUATING THE YON KIPPUR WAR BETWEEN ISRAEL

TANKS, WERE NOT ON HAND; IF ON HAND THE CREWS WERE UNTRAINED.

ADDITIONALLY, NO PROVISIONS FOR IMPROVED GUN SIGHTS AND

VISION DEVICES HAD BEEN MADE. THUS THE TANKS WERE NOT UTILIZED

WELL AND A NUMERICALLY INFERIOR FORCE, THE ISRAELIS, HELD THE.

DAY. HAD THE EGYPTIANS PLANNED FOR TRAINING, AND THE OTHER,

EQUIPMENT NEEDED AS THEY PROCURED TANKS, THE RESULTS MIGHT HAVE

BEEN MUCH DIFFERENT.

#### (TRANSLATION)

SLIDE OFF

SLIDE 6 ON ALLOW ME TO APPLY THESE IDEAS TO A CURRENT US

EFFORT. WE ARE CONSIDERING PRODUCTION OF A NEW ADVANCED

AFTACK HELICOPTER.

#### (TRANSLATION)

SLIDE OFF

HERE ARE SOME OF THE QUESTIONS TO BE ANSWERED BEFORE WE CAN PUT THIS VEHICLE IN AN INFANTRY UNIT. ONE, WHAT IS THE IMPACT ON MAINTENANCE? WILL IT REQUIRE MORE PERSONNEL TO KEEP IT GOING? WHAT EFFECT WILL THIS HAVE ON THE BATTALION, BRIGADE AND DIVISION? TWO, DOES THE IFY REQUIRE MORE HIGHLY TRAINED MAINTENANCE PERSONNEL? IF SO, WHERE DO THEY COME FROM: NEW PERSONNEL OR RETRAINING OF THOSE NOW CREWING THE MII5? THREE, THIS VEHICLE HAS A MUCH GREATER FIRE POWER CAPABILITY THAN PREVIOUS SYSTEMS. HOW WILL WE RESUPPLY IT WITH AMMUNITION? FOUR, HOW WILL WE PROVIDE THE PARTS NECESSARY TO MAINTAIN IT?

CTRANSLATION)

ABOUT TRAINING? WE USE A SYSTEM OF NEW EQUIPMENT TRAINING

TEAMS THAT GO INTO THE UNIT WHEN NEW EQUIPMENT IS ISSUED.

THE PROBLEM WITH THIS IS THAT THEY INSTRUCT IN A FORMAL

SCHOOL SITUATION AND STUDENTS RECEIVE VERY LIMITED OPPORTUNITY

SLIDE 8 ON

FOR ACTUAL EXPERIENCE ON THE ITEM. WHEN THE TEAM LEAVES,

THE EXPERIENCE LEAVES WITH THEM. OFTEN THE UNIT DOES NOT

HAVE TECHNICAL MANUALS TO THE ITEM AS SOON INOPERATIVE.

(TRANSLATION)

SLIDE OFF

THIS IS OBVIOUSLY A POOR SYSTEM. IF TOTAL SYSTEMS
INTEGRATION IS APPLIED, THE TRAINING GIVEN TO THE UNIT WILL
BE ADEQUATE, AND THE UNIT WILL RECEIVE SUFFICIENT TRAINING

EQUIPMENT TEAM HAS DEPARTED. THUS, THE KEY TO TRAINING

IS, AS THE ITEM IS BEING DEVELOPED, TO DETERMINE THE TASKS

THAT INDIVIDUALS AND CREWS MUST PERFORM, WHERE THEY SHOULD

BE TAUGHT THOSE TASKS, AND HOW TO RETAIN THAT SKILL ONCE THEY

HAVE ACQUIRED IT.

### (TRANSLATION)

I HAVE BEEN SAYING THEY IS THE FINAL ASPECT
THE PERSONNEL. THESE DAYS PERSONNEL IS A BIG TASK. IN YOUR
ARMY AND OURS AN INFANTRYMAN MUST LEARN MORE THAN 100 BASIC
SKILL TASKS. - ANY ONE OF THESE WILL HAVE MULTIPLE STEPS
SUCH AS: ASSEMBLE, DISASSEMBLE AND PLACE INTO OPERATION.

WE THEN SEND THE MAN TO SCHOOL TO BECOME A

HELICOPTER MECHANIC AND TEACH HIM NUMEROUS ADDITIONAL

SKILLS. OUR RATE OF FAILURES IN ENLISTED HELICOPTER

MECHANICS COURSES WAS APPROXIMATELY 15% IN FISCAL YEAR

1978. THIS FAILURE RATE IS A FURTHER MANAGEMENT ROBLEM.

#### (TRANSLATION)

SLIDE 9 ON THESE THREE ASPECTS: MAINTENANCE, TRAINING AND PERSONNEL ARE JUST THE BASICS, BUT THEY DO SERVE TO DESCRIBE THE NEED TO BRING TOGETHER ALL OF THE PARTS OF THIS PUZZLE.

THE RESULT OF THIS EFFORT WILL BE TOTAL SYSTEMS INTEGRATION.

## (TRANSLATION)

SLIDE OFF

SLIDE 10 ON BEFORE WE GO INTO THE APPLICATION OF TOTAL

SYSTEMS INTEGRATION TO THE GROWTH OF ROKA AVIATION I WOULD

PLANNING MODEL. A MODEL IS NOTHING MORE THAN A DRAWING USING LINES AND BLOCKS TO DESCRIBE THE FLOW OF THOUGHTS IN PLANNING SOME ACTION. THIS GENERAL PLANNING MODEL WAS SHOWN IN THE ISSUE PAPER AND A DRAWING OF IT IS IN YOUR HANDOUT.

### (TRANSLATION)

SOME GENERAL THINGS TO KNOW ABOUT THESE MODELS ARE THAT THEY ARE ORIENTED TO EVENTS, NOT TIME, AND THAT THE SIZE OF THE BLOCKS AND LENGTH OF LINES HAVE NO BEARING ON THE ACTUAL IMPORTANCE OR DURATION OF ANY EVENT.

### ( FRANSLATION)

I WANT TO BRIEFLY DESCRIBE HOW THIS GENERAL PLANNING.

MODEL IS USED AS WE BELIEVE IT IS AN EXCELLENT WAY OF GOING

# (TRANSLATION)

THE FIRST DECISION TO BE MADE BY TOP MANAGEMENT

IS WHAT IS THE PURPOSE OF THE ORGANIZATION. WE ALL REMEMBER

A FORMER I CORPS ROK/US GROUP COMMANDER WHO SAID THAT MISSION

WAS, "KILL THE COMMIES." HE WAS CORRECT AND DEVELOPED

OBJECTIVES TO MEET THAT PURPOSE. THIS DEVELOPMENT OF

OBJECTIVES TO MEET THE PURPOSE IS THE STRATEGIC PLANNING

ASPECT.

### (TRANSLATION)

THIS STRATEGIC PLANNING CANNOT BE DONE IN

ISOLATION. THE MANAJER MUST CONSIDER THREE DIFFERENT THINGS.

THE FIRST OF THESE IS THE INTERNAL RESOURCES OF THE

ORGANIZATION. THIS MUST BE A REALISTIC ASSESSMENT OF STRENGTHS AND WEAKNESSES. ALSO IT MUST CONSIDER THE

FINANCIAL SITUATION AND THE STATE OF TRAINING OF YOUR PERSONNEL.

#### (TRANSLATION)

THE SECOND THING TO CONSIDER IS THE EXTERNAL ENVIRONMENT. FOR ROKA THIS IS THE THREAT FROM NORTH KOREA, THE POLITICAL SITUATION OF ASIA IN GENERAL, AND THE FISCAL OR MONEY SITUATION OF KOREA AND OF THIS AREA OF THE WORLD.

### (TRANSLATION)

THIRD, THE DESTRES AND THOUGHTS OF YOUR LEADERSHIP

MUST BE CONSIDERED. AS A MILITARY PLANNER THIS WILL INCLUDE

FOR YOU SUCH THINGS AS WHAT IS AN ACCEPTABLE SURVIVAL RATE

FOR YOUR AIRCRAFT, OR WILL YOUR BASIC POSTURE REMAIN DEFENSIVE OR BECOME OFFENSIVE.

#### (TRANSLATION)

THERE ARE LINES BETWEEN THE BOXES FOR STRATEGIC PLANNING AND THE THREE APEAS TO CONSIDER. ALSO LINES BETWEEN EACH OF THE CONSIDERATIONS. THESE INDICATE THAT THE THREE CONSIDERATIONS ARE ALL INTERDEPENDENT, AND THAT WHEN SOME ASPECT OF ONE CHANGES IT HAS AN EFFECT ON THE OTHER TWO.

# (TRANS', AT IGN)

CONTINUING TO THE RIGHT ON THE MODEL WE SEE BLOCKS
FOR SHORT AND LONG TERM OBJECTIVES. AS I SAID BEFORE, THESE
MUST BE BASED ON THE STRATEGIC PLANNING. THE SHURT TERM

OBJECTIVES SHOULD BE BUILDING BLOCKS FOR THE LONG RANGE
OBJECTIVES. BUILDO STAND INDEPENDENTLY.

#### (TRANSLATION)

THE DIFFERENCE BETWEEN SHORT AND LONG TERM IS

NOT THE TIME OF THAT EVENT, BUT RATHER THE TIME THAT IT

TAKES FOR THE OBJECTIVE TO BE REALIZED. BY WAY OF EXAMPLE,

A SHORT TERM OSJECTIVE ON THE BUILDING OF THE PUSAN HIGHWAY

WAS THE BUILDING OF THE HIGHWAY ITSELF - WHICH MAY HAVE TAKEN

FIVE YEARS. A LONG TIME OBJECTIVE WOULD BE A MARKED IMPROVE.

MENT IN COMMERCE BECAUSE OF INCREASED TRUCK TRANSPORTATION.

THIS MIGHT TAKE TEN OR TWENTY YEARS.

### (TRANSLATION)

THE LAST BLOCK ON THE RIGHT INDICATES THE MEED
TO CONSTANTLY EVALUATE ALL PHASES OF THIS PROCESS. FOR THIS

REASON YOU SEE THE INTERCONNECTING LINES GOING TO EACH BLOCK. DURING THIS ENTIRE EFFORT, THE MANAGER MUST CONTINUOUSLY EVALUATE THE INTERNAL AND EXTERNAL ENVIRONMENT. HE ASKS HIMSELF IF NEEDS HAVE CHANGED, IF THE SOCIAL AND MORAL STANDARDS OF SOCIETY HAVE SHIFTED, IF THE OBJECTIVES HE HAS SET ARE ATTAINABLE. THE TEST OF THE SHORT AND LONG TERM OBJECTIVE DECISIONS IS WHETHER THESE DECISIONS WILL REMAIN VALID UNTIL THE OBJECTIVE IS REACHED. ARE THERE ANY QUESTIONS ON THIS PLANNING MODEL, BEFORE WE CONTINUE?

### (TRANSLATION)

SLIDE OFF

NOW WE WILL TAKE THE CONCEPT OF A PLANNING MODEL

AND APPLY IT TO MANAGEMENT OF A MILITARY ITEM OF EQUIPMENT

OR WEAPONS SYSTEM. THE MODEL I WILL BE DISCUSSING IS FOUND

IN YOUR ISSUE PAPER AND IS CALLED A LIFE CYCLE MODEL.

### (TRANSLATION)

SLIDE 11 ON THERE ARE SEVERAL BASIC THINGS TO KNOW ABOUT THE MODEL. FIRST, IT IS DIVIDED HORIZONTALLY. THE TOP HALF DEPICTS THE BASIC EVENTS THAT OCCUR IN THE DECISION MAKING PROCESS FOR DEVELOPING AND DISPLAYING THE EQUIPMENT. THE BOTTOM HALF DEPICTS THOSE ADDITIONAL SUPPORTING EVENTS WHICH MUST ALSO OCCUR. NORMALLY THIS MODEL IS DIVIDED INTO FOUR PHASES: CONCEPT; VALIDATION; DEVELOPMENT; AND PRODUCTION AND DEPLOYMENT.

# (TRANSLATION)

LET'S LOOK AT THESE BLOCKS ON THE MODEL AND SEE

WHAT KIND OF DECISIONS ARE BEING MADE AT EACH PHASE, AND

WHO MAKES THEM.

DURING THE CONCEPT PHASE THE MAJOR DECISIONS

INCLUDED WHAT IS NEEDED AND HOW IT IS TO BE USED. THESE

ARE MADE BY THE TOP LEVEL MANAGERS. AS YOU CAN SEE ALL

OF THE MAJOR COMMENTS GET INVOLVED IN THIS PROCESS. WHILE

OUR DEPARTMENT OF THE ARMY SETS THE STAGE FOR THE DECISIONS,

THE DEVELOPERS OF DOCTRINE AND EQUIPMENT, AND THE TRAINERS

AND LOGISTICIANS MUST ALSO HAVE IMMEDIATE IMPACT ON THE

BASIC DECISIONS.

### (TRANSLATION)

AT THE SAME TIME, IN THE SUPPORT AREA THE TRAINER AND LOGISTICIAN BEGIN TO DECIDE WHAT THEY MUST DO TO TRAIN PERSONNEL TO OPERATE THE EQUIPMENT, AND HOW TO MAINTAIN AND RESUPPLY IT. AS THE ITEM HAS NOT BEEN DEVELOPED YET THIS PLANNING IS TENTATIVE, BUT NECESSARY.

AS THE PROCESS PROCEEDS WE MOVE INTO THE

VALIDATION PHASE. IT IS HERE THAT A PROTOTYPE OF THE

NEEDED ITEM IS DEVELOPED. THIS PROTOTYPE WILL BE

EXTENSIVELY TESTED TO DETERMINE IF IT CAN PERFORM THE

TASK. IF NOT IT MAY BE MODIFIED, OR REDESIGNED, OR PERHAPS

DISCARDED AS A BAD IDEA AND THE PROCESS STARTED AGAIN.

THESE TASKS ARE DONE PRIMARILY BY THE MATERIEL DEVELOPER.

# (TRANSLATION)

WHILE THE PROTOTYPE IS BEING TESTED, THE COMBAT

DEVELOPER CONTINUES HIS DOCTRINE PLANNING AND DEVELOPS THE

UNIT STRUCTURE AND PERSONNEL REQUIREMENTS THAT MUST SUPPORT

THE SYSTEM OR ITEM. HE DOES THIS WITH AND UNDER THE GUIDANCE

OF DEPARTMENT OF THE APMY.

NOW WE MOVE INTO EXTENSIVE TESTING, THE DEVELOPMENT PHASE. IT IS HERE THAT DETERMINATION IS MADE AS TO WHETHER THE PROTOTYPE CAN PERFORM ITS MISSION TO MEET ARMY STANDARDS. FOR HELICOPTERS THIS WILL BE MONTHS OF TESTING UNDER EVERY CONDITION IN WHICH THE AIRCRAFT IS EXPECTED TO OPERATE. THIS INCLUDES THE DESERT, THE ARTIC, EXTREMES OF DUST AND RAIN - ALL INTENDED TO INSURE THAT THE AIRCRAFT CAN PERFORM IN THE FIELD AND BE RELIABLE. THE END OF THIS PHASE IS THE DECISION WHETHER TO BUY OR NOT. THE DEVELOPERS AND DEPARTMENT OF THE ARMY SHARE THIS TASK.

### (TRANSLATION)

AT THE SAME TIME TRAINERS AND LOGISTICIANS ARE DEVELOPING THE TM'S AND HM'S NECESSARY TO FIELD THE ITEM AND INSTRUCT PERSONNEL ON ITS USE AND MAINTENANCE.

PHASE IS TO PRODUCE IT AND SEND THE ITEM TO THE FIELD. THIS

ACTION WILL NOT OCCUR IMMEDIATELY, ESPECIALLY FOR A COMPLEX ITEM. THEREFORE, WHILE THE MATERIEL DEVELOPER IS HAVING THE ITEM PRODUCED, THE SUPPORTING ELEMENTS ARE TRAINING PERSONNEL. AND PUBLISHING THE TOE. PROPERLY EXECUTED THE ITEM OF EQUIPMENT AND TRAINED PERSONNEL WILL ARRIVE AT THE UNIT AT ABOUT THE SAME TIME.

### (TRANSLATION)

SLIDE OFF

THIS LIFE CYCLE MODEL DEPICTS A LONG PROCESS. IN MOST CASES THE TIME FROM CONCEPT TO DEPLOYMENT WILL BE CLOSE TO FIVE YEARS. IN THE CASE OF ONE LIEM OF EQUIPMENT WE ARE LOOKING ON, THE CONCEPT STARTED SIXTEEN YEARS AGO -

AND IS FAR FROM FINISHED. THESE LONG PERIODS OF TIME MAKE

THE NEED FOR A WELL THOUGHT OUT AND INTEGRATED PLAN EVEN

MORE IMPORTANT. ARE THERE ANY QUESTIONS ABOUT THIS LIFE

CYCLE MODEL BEFORE WE CONTINUE?

#### (TRANSLATION)

THE FINAL STEP IS TO APPLY THIS THOUGHT PROCESS

TO PLANNING FOR THE GROWTH OF ROKA AVIATION. AS I HAVE TOLD

YOU, ALL OF THIS PLANNING GOES ON SIMULTANEOUSLY. HOWEVER,

TO DESCRIBE HOW IT MIGHT APPLY TO ROKA I WILL FIRST DISCUSS

IT BY THE MAJOR AREAS OF AIRCRAFT, TRAINING, PERSONNEL, AND

LOGISTICS. THEN BY A TIME LINE APPROACH, PLANNING BACKWARD

FROM 1982. THEN WILL SUMMARIZE THIS ALL IN AN INTEGRATED

PICTURE OF THE PROCESS.

LET ME STRESS AGAIN THAT THESE THOUGHTS ARE ONLY
- EXAMPLES AND ARE NOT INTENDED TO DO ANY MORE THAN ASSIST

YOUR PLANNING.

#### (TRANSLATION)

SAME DIAGRAM IN YOUR HANDBOOK ON PAGE 12 AS IS SHOWN ON

THIS SLIDE. IN THIS AREA YOU ARE OBVIOUSLY IN THE

PRODUCTION AND DEPLOYMENT PHASE OF PLANNING. THE DECISIONS

LEFT TO BE MADE WILL CONCERN THE ISSUE PLAN FOR THE AIRCRAFT.

TO DEVELOP THAT PLAN YOU MUST ASK SOME QUESTIONS. THESE

SHOULD DETERMINE FOR YOU IF THE UNIT HAS THE CAPABILITY TO

ACCEPT AND USE THE AIRCRAFT. AS AN EXAMPLE, WILL TRAINED

PILOTS BE IN THE UNIT, AND WILL TRAINED MAINTENANCE PERSONNEL

BE THERE? EVERY UNIT WILL BE DIFFERENT, THEREFORE, THE
BASIS OF ISSUE PLAN SHOULD SEND THE FIRST NEW AIRCRAFT TO
UNITS MOST READY TO RECEIVE THEM.

#### (TRANSLATION)

SLIDE OFF

TO THE QUESTIONS ASKED ABOUT AIRCRAFT ISSUE HAD LEAD

TO THE QUESTION OF TRAINING. YOU WILL FIND THE TRAINING

DIAGRAM ALSO ON PAGE 12 OF YOUR HANDBOOK. AS I MENTIONED

DURING THE DISCUSSION OF THE LIFE CYCLE MODEL, PLANNING FOR

TRAINING BEGINS EARLY IN THE CYCLE. THE REASON IS THAT

TRAINING MUST BEGIN AS PRODUCTION BEGINS. THIS MEANS

THAT TRAINING MANUALS AND PROGRAMS OF INSTRUCTION SHOULD

HAVE ALREADY BEEN PRODUCED.

### THE ULTIMATE OBJECTIVE OF THE TRAINING PLANNING

WILL BE TO HAVE TRAINED PERSONNEL IN THE UNIT WHEN THE

ATRORAFT ARRIVE. AGAIN, SOME QUESTIONS WILL ASSIST IN THIS
PROCESS. THESE QUESTIONS SHOULD DETERMINE HOW MANY TRAINED
PERSONNEL ARE NEEDED, AND WHEN THEY MUST BEGIN TRAINING SO
AS TO BE IN THE UNIT ON TIME. OBVIOUSLY THE TRAINING PLAN
CLOSELY FOLLOWS THE ATRORAFT ISSUE PLAN.

### (TRANSLATION)

SLIDE OFF

THE SUBJECT OF TRAINING LEADS US TO THE SUBJECT OF

THE PERSONNEL TO BE TRAINED. THE DIAGRAM FOR THIS IS ON

PAGE 14 OF YOUR HANDOUT. THERE ARE TWO SOURCES OF THOSE

PERSONNEL, THOSE ON ACTIVE DUTY NOW, AND THOSE TO BE BROUGHT

ON ACTIVE DUTY.

DUTY AND DETERMINE WHAT SKILLS THEY HAVE AND WHAT ADDITIONAL TRAINING IS REQUIRED. FOR THOSE TO BE BROUGHT ON ACTIVE DUTY THE QUESTION IS, HOW SOON MUST THEY COME ON ACTIVE DUTY IN ORDER TO BE TRAINED AND IN THE UNIT ON TIME? THIS INCLUDES BOTH OFFICERS AND EMLISTED PERSONNEL.

### (TRANSLATION)

SLIDE OFF

ASPECT. YOU WILL FIND THE DIAGRAM FOR IT ON PAGE 14 OF YOUR HANDOUT. THE LOGISTICIAN TAKES ACTIONS TO INSURE THAT THE EQUIPMENT TO SUPPORT THE MISSION IS IN THE HANDS OF THE USER.

MORE THAN EQUIPMENT THE LOGISTICIAN IS ALSO INTERESTED IN THE SUPPORT PERSONNEL AND THEIR TRAINING.

(IRAIISLATION)

WHAT KIND OF GUESTIONS DOES THE LOGISTICIAN AUX?

HE ASKS ABOUT THE EQUIPMENT AND PEOPLE TO DO THE MAINTENANCE, FIX WEAPONS SYSTEMS AND RADIOS, AND FIRE TRUCKS AND FUEL TRUCKS. HE WANTS TO KNOW IF THEY WILL BE IN THE UNIT WHEN THE AIRCRAFT ARRIVE.

SLIDE OFF

#### (TRANSLATION)

WE HAVE LOOKED AT THE TOTAL SYSTEMS INTEGRATION

APPROACH IN ONE WAY, MON LET'S TRY IT IN A TIME LINE. BY

TIME LINE I MEAN BACKWARDS PLANNING BY YEARS. THE DIAGRAMS

FOR THIS ARE FOUND ON PAGES SIXTEEN AND SEVENTEEN OF YOUR

HANDOUT.

# (TRANSLATION)

SLIDE 16 ON 1982 IS THE PROJECTED YEAR FOR COMPLETION OF ROKA

AVIATION IMPROVEMENTS: THEREFORE, IN 1982 WE SHOULD SEE

NEWLY FORMED AVIATION UNITS. THE DIAGRAM DEPICTS THIS

Light - OCCURRANCE BY SHOWING THAT THE MEWLY DEVELOPED TOE HAR BEEN

FILLED WITH TRAINED PERSONNEL AND NECESSARY EQUIPMENT. THE CYCLE IS COMPLETED.

#### (TRANSLATION)

SLIDE OFF

SLIDE 17 ON IN 1981 ALL PLANNING HAS BEEN COMPLETED AND ACTION HAS BEGUN. PERSONNEL AND IN TOAINING, SUPPORT IS FURNIZED.

AND THE EQUIPMENT TO BE MANUFACTURED OR PURCHASED IS IN THE PROCUREMENT CYCLE, SO AS TO BE ON HAND IN 1982.

# (TRANSLATION)

SLIDE OFF

SLIDE 18 ON 1980 IS A YEAR FOR PLANNING, IMPORTANT DECISIONS AND SOME FIRST ACTIONS BASED ON THOSE DECISIONS. DURING THIS

YEAR THE TRAINER FINALIZES HIS PLANS WHILE THE PERSONNEL MANAGER DETERMINES WHO AND HOW MANY MUST BE TRAINED. AT THE SAME TIME THE NEW TOE IS PUBLISHED AND LOGISTICIAN PLANS HOW HE WILL PROCURE NEEDED SUPPORT ITEMS.

#### (TRANSLATION)

SLIDE OFF

PROCESS AND THE WEIGHING OF ALTERNATIVES. THE DECISIONS MADE

NOW WILL GO THROUGH THE PROCESS OF PLANNING AND ACTION. THEY

WILL NOT HAVE A FINAL OUTCOME FOR THREE YEARS.

### (TRANSLATION)

SLIDE OFF

SLIDE 20 ON THIS COMPLETES THE TIME LINE APPROACH. LET'S "IT IT ALL TOGETHER NOW AND TRACE THE PROCESS FROM START TO

PERHAPS THE SEST WAY IS TO COMPARE IT TO THE GROWTH OF A RIVER, WHERE EACH SHALL SIDE STREAM ACOS NEW STRENGAT.

### (TRANSLATION)

ON THE SLIDE ME SPE AT THE TOP THE BROWNING OF PRODUCTIO OF NEW AIRCRAFT AND AT THE SAME TIME BELOW IT IS THE QUESTIONING ADD PLANTING FOR TRAINING, PERSONNEL AND LOGISTICS. THESE ACTIONS LEAD INTO ACCUESTION OF A TARRING OF A

# (TRANSLATION)

AND THEN TO AURORANT MECHANICS SCHOOL, AT THE SAME TIME.

NEW OFFICERS JOIN THE RANKS AND THEN GO TO PLICENT SCHOOL.

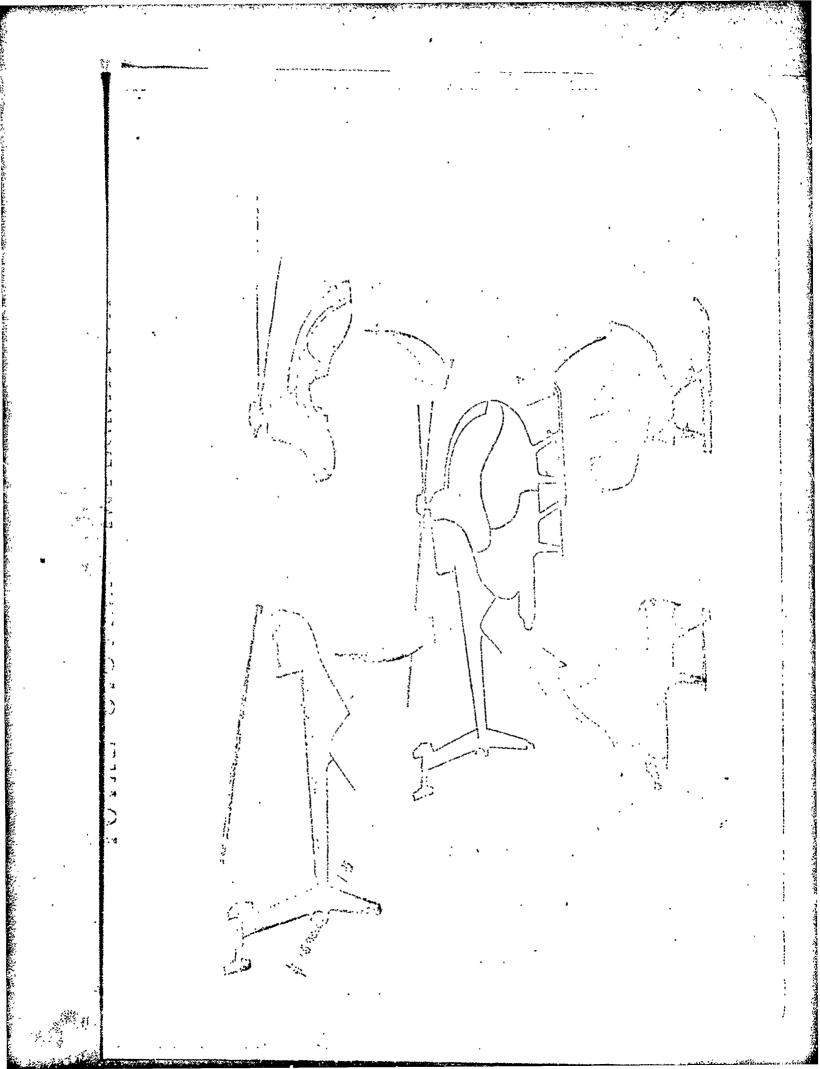
AND RECEIVE THEIR MINGS. BOTH OF THEM ARRIVE AT THE PMIN

AS THE AIRCRAFT AND SUPPORT EQUIPMENT ARRIVES AND THE UNITY IS FORMED.

(TRANSLATION)

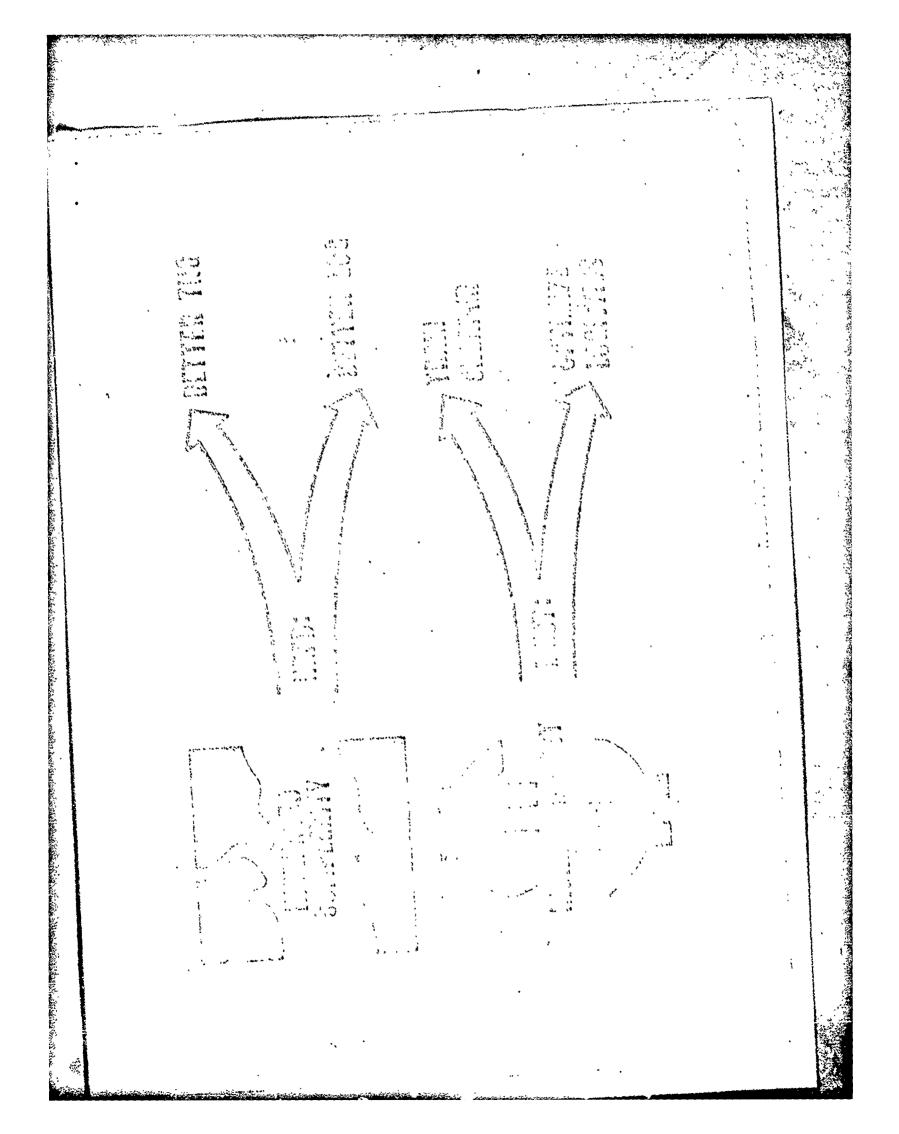
SLIDE OFF

THIS HAS BEEN A LONG COMPLEX DISCUSSION. THE TOTAL SYSTEMS INTEGRATION IS COMPLEX, BUT IT IS INTENDED TO INSURE THAT A FIELDED PIECE OF EQUIPMENT WILL ACCOMPLISH ITS INTENDED MISSION. THE CONCEPT HAS PROVEN USEFUL TO US AND WE HOPE THAT SOME OF THE THOUGHTS PROVIDED HERE MAY BE USEFUL TO YOU. ARE THERE ANY QUESTIONS?

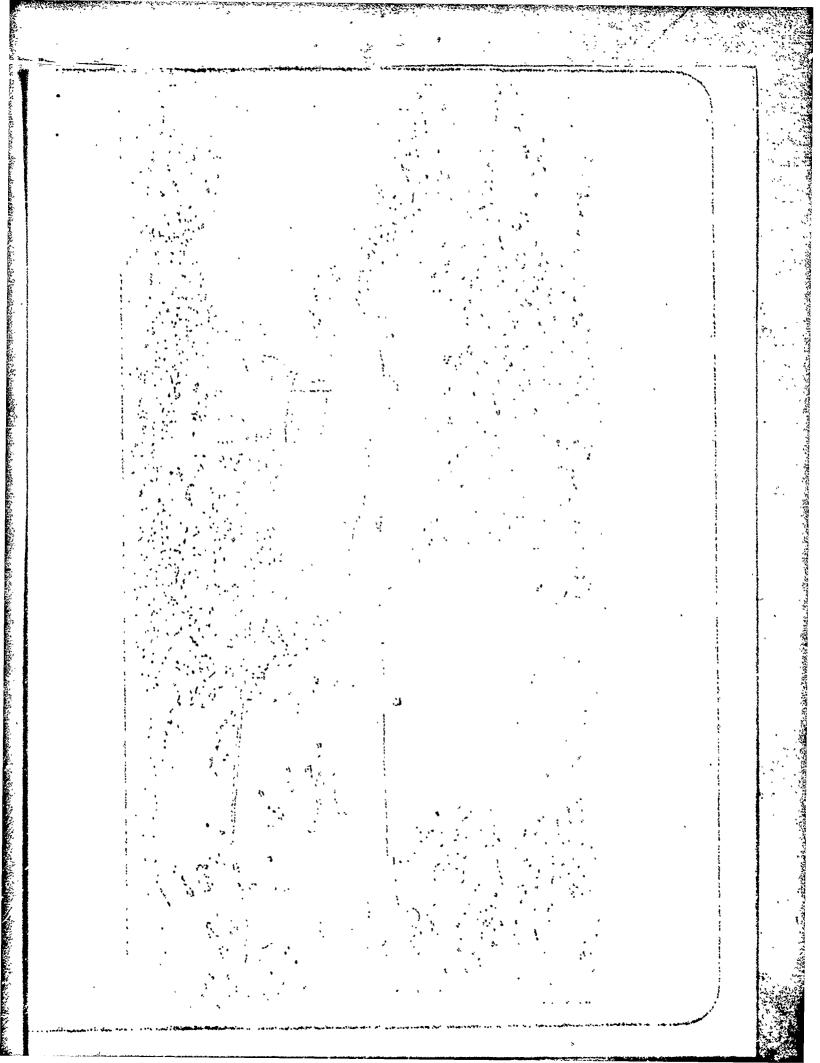


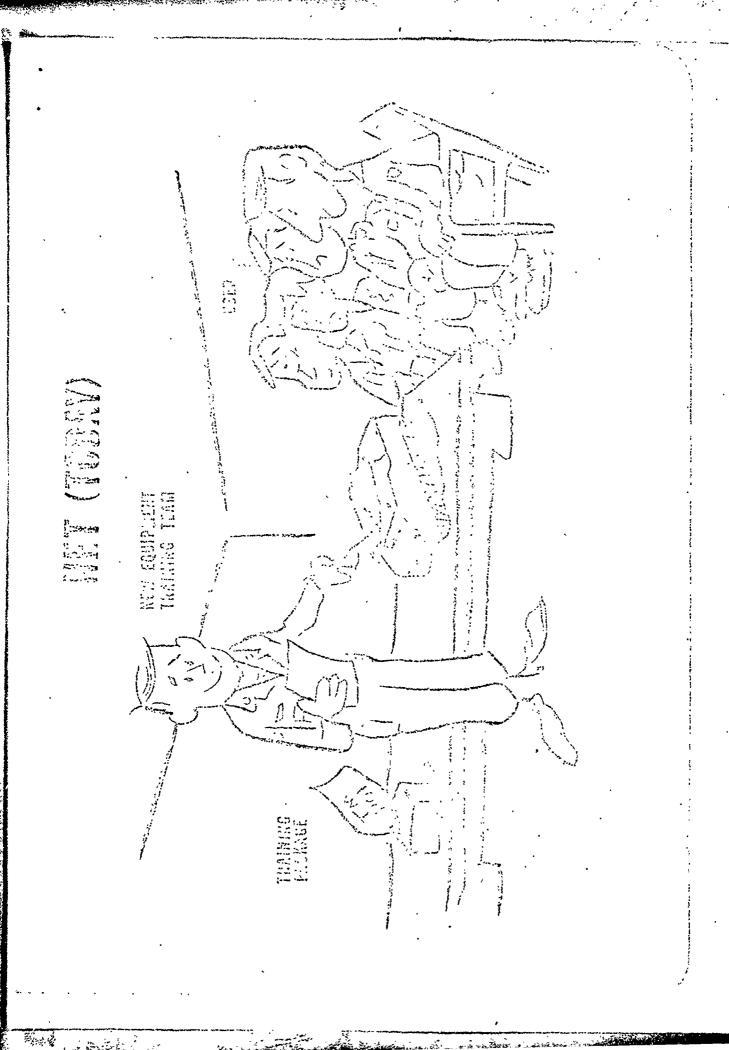
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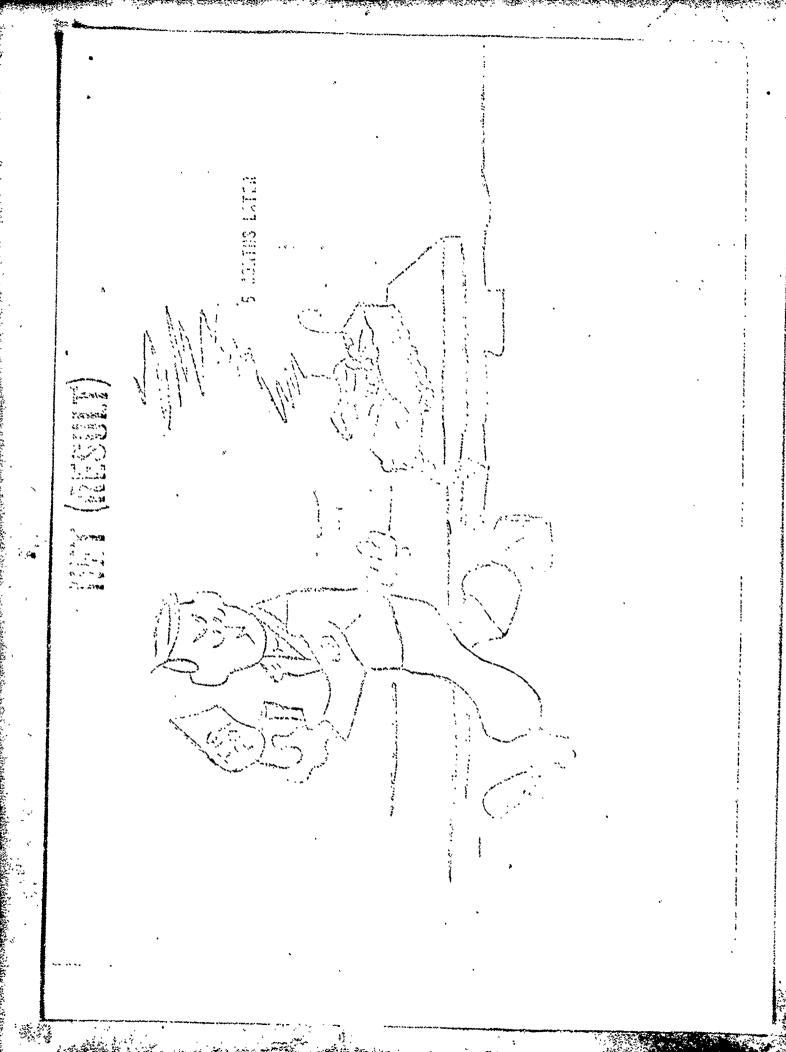
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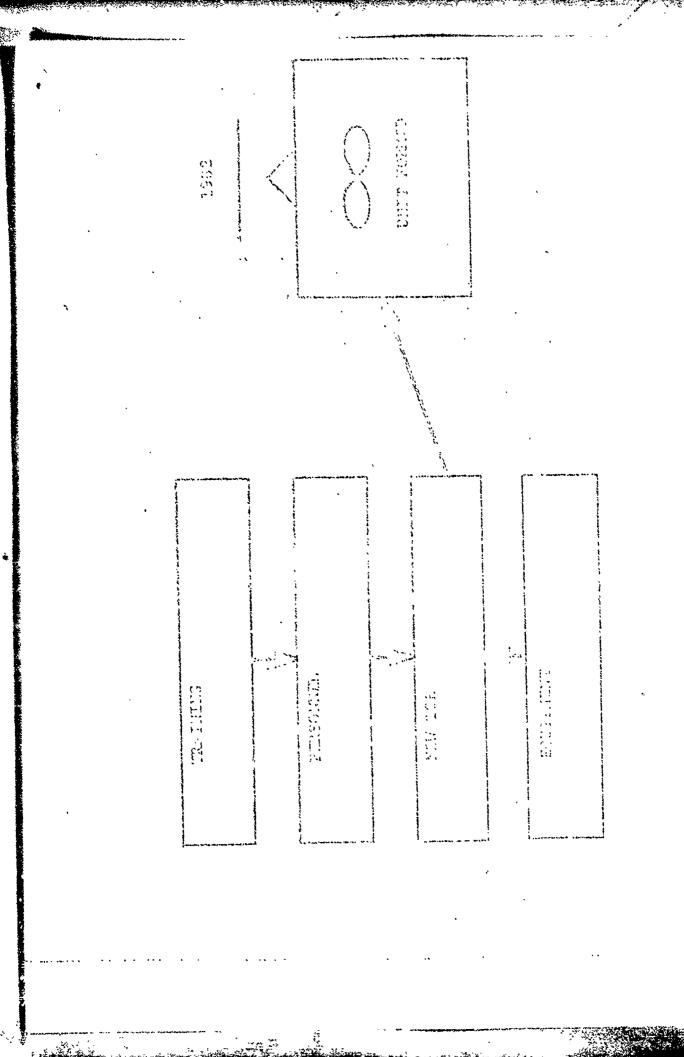
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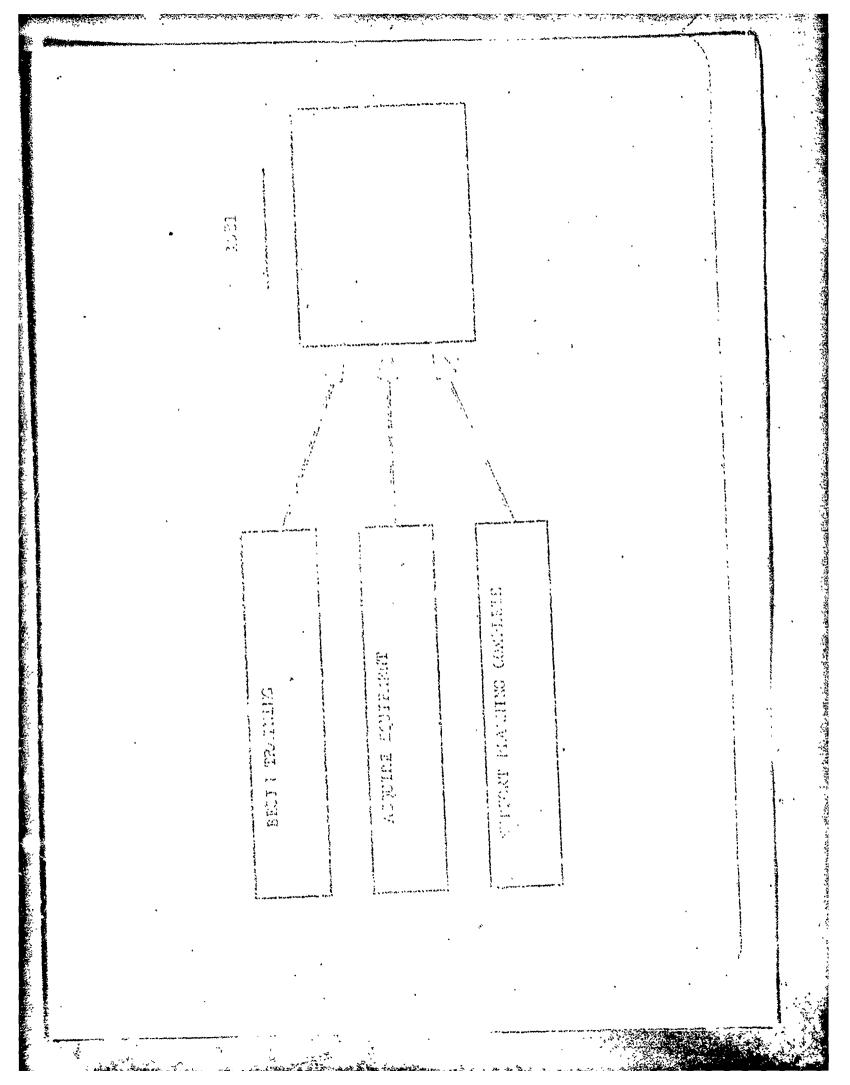
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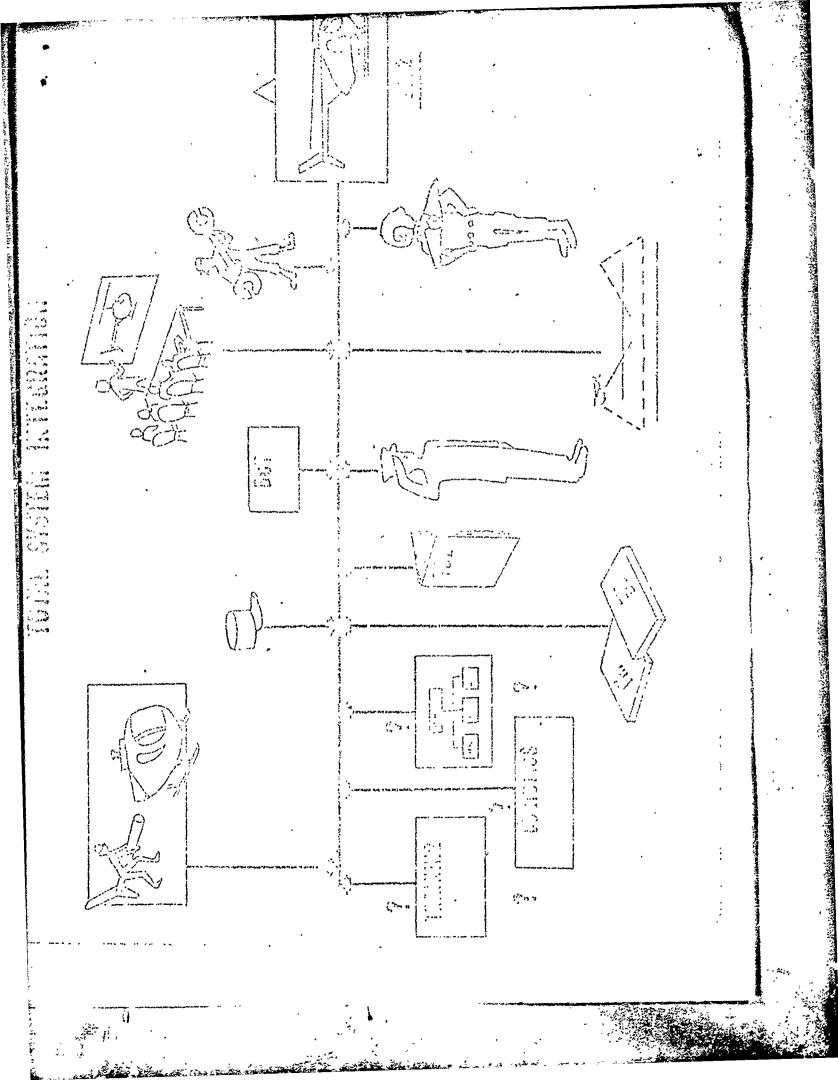




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SLIDE 1 GOOD MORNING, GENTLEMEN. WELCOME TO MANAGEMENT WORKSHOP NUMBER TWO.

### (TRANSLATION)

SLIDE 2 THIS WORKSHOP WILL SPECIFICALLY ADDRESS MANAGEMENT

OPPORTUNITIES. SHOWN ON THIS SLIDE ARE THE AREAS WE WILL

DISCUSS TODAY.

### (TRANSLATION)

BRIEFLY LET ME REVIEW THE WORKSHOP STRUCTURE. EACH ISSUE

WILL BEGIN WITH A PRESENTATION BY MYSELF AND THE INTERPRETER.

FOLLOWING THE PRESENTATION THERE WILL BE DISCUSSION OPEN TO

EVERYONE. PLEASE LIMIT DISCUSSION TO THE SUBJECT BEING

ADDRESSED. TOWARD THE END OF THE DISCUSSION PERIOD, YOU WILL

BE GIVEN TIME TO FORMULATE SOME CONCLUSIONS AND RECOMMENDATIONS.

### YOUR COOPERATION IS GREATLY APPRECIATED.

### TRANSLATION)

THE FIRST MANAGEMENT OPPORTUNITY WE WILL ADDRESS IS

THE "MAXIMUM UTILIZATION OF AVIATION TRAINING FACILITIES AND

INSTRUCTORS." YESTERDAY WE IDENTIFIED THE LARGE AVIATION

TRAINING REQUIREMENTS NEEDED TO SUPPORT THE ROKA AIRCRAFT

INCREASES.

### (TF.ANSLATION)

OUTPUT AND FUTURE PERSONNEL REQUIREMENTS. IN ADDITION TO

SATISFYING THE PRESENT PERSONNEL SHORTAGES, ROKA MUST ALSO

BE CAPABLE OF MAINTAINING A LEVEL OF TRAINING NECESSARY TO

FILL SHORTAGES AS PERSONNEL ARE PROMOTED OR TRANSFERRED OUT

OF THEIR POSITIONS.

### (TRANSLATION)

THREE SPECIFIC TRAINING OPTIONS WE WILL TALK ABOUT

ARE:

UNIT TRAINING OF ROKA AVIATORS

FT RUCKER TRAINING OF ROKA AVIATORS

-ROKA SCHOOL TRAINING OF AVIATORS

### (TRANSLATION)

SLIDE 4A

UNIT TRAINING OF AVIATION PERSONNEL IS ONE METHOD TO
TRAIN AVIATION PERSONNEL AND MAINTAIN UNIT STRENGTHS. BY
UNIT TRAINING I AM REFERRING TO TAKING AN UNQUALIFIED
INDIVIDUAL, PLACING HIM IN AN AVIATION COMPANY OR BATTALION,
AND MAKING THE UNIT RESPONSIBLE FOR INITIAL AND ADVANCED
AVIATION TRAINING. THE GREATEST ADVANTAGE TO THIS METHOD,

IS THAT UNIT STRENGTH LEVELS WOULD BE HIGHER AND NOT

DEPENDENT ON THE OUTPUT LEVELS OF THE SCHOOLS.

### (TRANSLATION)

A TRAINING PROGRAM OF THIS TYPE WOULD PLACE A TREMENDOUS
RESPONSIBILITY ON THE UNIT COMMANDER. EACH SEPARATE UNIT WOULD
REQUIRE QUALIFIED INSTRUCTORS, TRAINING PUBLICATIONS AND
TRAINING DEVICES OR AIDS. OVERALL, THE TOTAL ROKA REQUIREMENTS
FOR INSTRUCTORS, PUBLICATIONS AND DEVICES WOULD BE MUCH
GREATER THAN USING A CENTRALIZED TRAINING PROGRAM. THE
COST OF PROVIDING THIS TRAINING SUPPORT WOULD BE LARGE.

### (TRANSLATION)

ANOTHER AREA OF CONCERN IS THAT STANDARDIZATION OF
INSTRUCTION WOULD BE MORE DIFFICULT. THE MORE CENTRALIZED
THE TRAINING, THE EASIER THE STANDARDIZATION.

(TRANSLATION)

OVERALL, INITIAL TRAINING OF AVIATION PERSONNEL
WITHIN THE UNITS WOULD BE COSTLY AND DIFFICULT TO
CONTROL. THE QUALITY AND SPEED OF INSTRUCTION WOULD
VARY FROM UNIT TO UNIT DEPENDING ON THE EXPERTISE
AVAILABLE. THE UNIT STRENGTH LEVELS WOULD BE HIGH
FROM THE BEGINNING, BUT A PORTION OF THOSE PERSONNEL
WOULD NOT BE FULLY TRAINED. THIS MAY GIVE A FALSE SENSE
OF SECURITY TO THE UNIT COMMANDERS.

### (TRANSLATION)

SLIDE 5 THE SECOND TRAINING OPTION WOULD BE TO TRAIN ROKA

AVIATION PERSONNEL AT THE UNITED STATES ARMY AVIATION

CENTER AT FT RUCKER, ALABAMA. A SIMILAR PROGRAM WAS

CONDUCTED AT FT RUCKER FOR THE TRAINING OF VIETNAMESE

PILOTS. I NEED TO EMPHASIZE THAT FT RUCKER TRAINING OF

ROKA PERSONNEL WILL REQUIRE MILITARY AND STATE DEPARTMENT COORDINATION.

### (TRANSLATION)

AT THE PRESENT THERE ARE A SMALL NUMBER OF ROKA PERSONNEL WHO ARE ATTENDING SCHOOLS AT FT RUCKER. THE PRESENTLY FORECASTE ALLOCATIONS FOR ROKA PERSONNEL TO ATTEND US, ARMY SCHOOLS ARE NOT LARGE ENOUGH TO GREATLY DECREASE THE ROKA TRAINING REQUIREMENTS. TWO COURSES OF ACTION MAY PROVE ADVANTAGEOUS FOR ROKA.

### (TRANSLATION)

NUMBERS OF SLOTS SO THAT FT RUCKER TRAINING WILL DECREASE

THE ROKA SCHOOL TRAINING REQUIREMENT. THIS WOULD GREATLY

REDUCE THE NUMBER OF SOLDIERS TO BE TRAINED AT ROKA SCHOOLS.

AS A SIDE EFFECT, THESE PERSONNEL WOULD BE VERY FAMILIAR WITH THE US. ARMY AVIATION EQUIPMENT AND ITS OPERATION.

THE COST OF TRAINING SUCH LARGE NUMBERS OF ROKA PERSONNEL MAY PREVENT USING THIS COURSE OF ACTION.

### (TRANSLATION)

AS A SECOND COURSE OF ACTION, ROKA AVIATION INSTRUCTORS

COULD BE TRAINED AT FT RUCKER. BY TAKING ALREADY QUALIFIED

PILOTS AND MAINTENANCE PERSONNEL, AND SENDING THEM TO US.

ARMY SCHOOLS, THEY COULD PROVIDE THE INSTRUCTOR FORCE

NECESSARY TO CONDUCT A LARGE ROKA TRAINING PROGRAM. THIS

PROGRAM WOULD ALLOW FOR MAXIMUM USE OF THE ROKA SCHOOL

FACILITIES FOR INITIAL PERSONNEL TRAINING. THE COST OF

THIS PROGRAM WOULD NOT BE AS GREAT AND YET IT WOULD HELP

RELIEVE THE TRAINING LOAD OF ROKA SCHOOLS.

### (TRANSLATION)

OF AVIATION PERSONNEL." WITH OR WITHOUT SUBSTANTIAL NONKOREAN TRAINING, THE ROK ARMY MUST MAKE THE BEST USE OF

ITS TRAINING FACILITIES.

### (TRANSLATION)

BECAUSE SCHOOL TRAINING IS CENTRALIZED, IT OFFERS

SEVERAL ADVANTAGES. THE BURDEN OF QUALIFICATION TRAINING

IS NO LONGER A UNIT PROBLEM. FEWER INSTRUCTORS AND

TRAINING AIDS ARE NEEDED TO TEACH LARGER CLASSES OF

STUDENTS. STANDARDIZATION OF INSTRUCTION IS EASILY

ACCOMPLISHED.

### (TRANSLATION)

EVEN THOUGH SCHOOL TRAINING HAS ITS ADVANTAGES, MAXIMUM USE OF EXISTING TRAINING FACILITIES IS NECESSARY TO

ACCOMMODATE THE LARGE INCREASE IN STUDENTS. A REORGANIZATION OF ROKA TRAINING PROGRAMS MAY BE DESIRABLE.

### (TRANSLATION)

SLIDE 9 AVIATION RELATED TRAINING CAN BE GENERALLY DIVIDED INTO
PILOT TRAINING AND MAINTENANCE OR SUPPORT TRAINING. THE
INITIAL APPEARANCE IS THAT THE ROKA AVIATION SCHOOL'S ASSETS
WILL HAVE TO BE MAXIMIZED FOR PILOT TRAINING.

### (TRANSLATION)

BECAUSE OF THE INCREASES IN ROKA HELICOPIER ASSETS,

ROTARY WING PILOT TRAINING WILL NEED TO BE INCREASED. AS THE

NUMBERS OF ROKA FIXED WING AIRCRAFT DECREASE, THE TRAINING

REQUIREMENT FOR FIXED WING PILOTS WILL DECREASE.

(TRANSLATION)

AT. THE PRESENT TIME, ROKA PILOTS RECEIVE INSTRUMENT TRAINING IN A FIXED WING AIRCRAFT. WITH THE LARGER REQUIREMENT FOR ROKA ROTARY WING PILOTS AND THE PURCHASE OF THE 2B24, SYNTHETIC FLIGHT TRAINING SYSTEM, IT MAY BE BENEFICIAL TO CONDUCT INSTRUMENT QUALIFICATION IN ROTARY WING AIRCRAFT. THIS WOULD ALLOW FOR BETTER UTILIZATION OF THE 2B24 SFTS. THE FEW NUMBERS OF FIXED WING PILOTS COULD RECEIVE FIXED WING INSTRUMENT QUALIFICATION DURING THE FIXED WING PILOT COURSE. THIS WOULD ALLOW FOR MAXIMUM INSTRUMENT TRAINING OF ROTARY WING PILOTS AND MAXIMUM UTILIZATION OF THE SFTS.

### (TRANSLATION)

SLIDE 10 IN ORDER TO CONDUCT INCREASED CREW CHIEF TRAINING,

REORGANIZATION MAY BE NECESSARY. US. ARMY EXPERIENCE

HAS SHOWN THAT CREW CHIEF TRAINING AND MECHANIC TRAINING *"E VERY SIMILAR. BOTH COURSES OF INSTRUCTION USE ALMOST IDENTICAL TOOLS, TRAINING DEVICES AND INSTRUCTORS. CONSOLIDATION OF THE MAINTENANCE RELATED TRAINING WOULD ALLOW FOR LARGER NUMBERS TO BE TRAINED USING FEWER NUMBERS OF CLASSROOMS, INSTRUCTIONAL MATERIALS, TRAINING DEVICES, TOOL BOXES AND INSTRUCTORS. ADDITIONALLY TRAINING DEVICES COULD BE SCHEDULED TO AFFORD MAXIMUM UTILIZATION, THUS REDUCING THE COST. STANDARDIZATION OF MAINTENANCE PRACTICES WOULD BE ENHANCED BY CONSOLIDATION. UNIT COMMANDERS COULD USE PERSONNEL IN EITHER MAINTENANCE OR CREW CHIEF POSITIONS WITHOUT A MAJOR RE-TRAINING OF PERSONNEL.

(TRANSLATION)

THESE TWO EXAMPLES OF AVIATION TRAINING REORGANIZATION

ARE NOT THE ONLY AREAS WHERE ROKA MAY BENEFIT. ROKA MAY

FIND OTHER AREAS THAT WILL ALSO MAKE MAXIMUM USE OF THE

AVIATION TRAINING FACILITIES AND INSTRUCTORS.

### (TRANSLATION)

AND DISADVANTAGES. ONE OR A COMBINATION OF THESE OPTIONS

MAY BEST MEET THE ROKA REQUIREMENTS. WE WILL NOW TAKE

APPROXIMATELY 30 MINUTES TO ANSWER QUESTIONS AND TO PERMIT

YOU TO DEVELOP CONCLUSIONS AND RECOMMENDATIONS. ARE THERE

ANY QUESTIONS REGARDING THE PRESENTATION?

### WORKSHOP # TWO MANAGEMENT

"MANAGEMENT OPPORTUNITES"

### "MANAGEMENT OPPORTUNITIES"

- * MAXIMUM UTILIZATION OF AVIATION TRAINING FACILITIES AND INSTRUCTORS
- USE OF CIVILIAN FLIGHT INSTRUCTORS TO FREE MILITARY PILOTS
- * U.S. ARMY THREE LEVEL MAINTENANCE VERSUS ROK FOUR LEVEL MAINTENANCE
- * CONTRACT MAINTENANCE AT DEPOT LEVEL
- AIRSPACE MANAGEMENT

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### TRAINING FACILITIES INSTRUCTORS S S AVIATION

# TRAINING OPTIONS

UNIT TRAINING

FT. RUCKER TRAINING

ROKA SCHOOL TRAINING

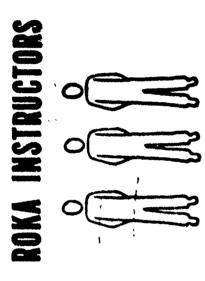
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PILOTS

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(KOREA)



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ROKA SCHOOLS

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### TRAINING RELATED AVIATION

1. PILOT TRAINING

2. MAINTENANCE TRAINING

### MAINTENANCE TRAINING

MECHANICS

CREW CHIEFS

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**PUBLICATIONS** 

INSTRUCTORS

TRAINING AIDS

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## TRAINING OPTIONS

UNIT TRAINING

FT. RUCKER TRAINING

ROKA SCHOOL TRAINING

THE SECOND MANAGEMENT OPPORTUNITY WE WILL CONSIDER

IS THE "USE OF CIVILIAN FLIGHT INSTRUCTORS TO FREE MILITARY

PILOTS." THIS OPPORTUNITY CAN BE CLOSELY RELATED TO THE

FIRST TOPIC "MAXIMUM USE OF AVIATION TRAINING FACILITIES

AND INSTRUCTORS."

SLIDE 1A ROKA HAS PROJECTED FOR A LARGE INCREASE IN ROKA

HELICOPTER ASSETS BETWEEN NOW AND 1982. EIGHTH US ARMY

AND ROKA ESTIMATES HAVE DETERMINED THAT 1805 AVIATORS WILL

BE REQUIRED TO FILL THE AVIATION ORGANIZATIONS BY 1986.

THIS MEANS THAT A LARGE TRAINING PROGRAM WILL HAVE TO BE

IMPLEMENTED. ONE OF THE MAJOR PROBLEMS WITH MEETING THESE

REQUIREMENTS IS THE SHORTAGE OF INSTRUCTOR PILOTS.

SLIDE 1A OFF

LIDE 1

(TRANSLATION)

US ARMY AVIATION HAS ALSO EXPERIENCED A SHORTAGE OF

MILITARY INSTRUCTOR PILOTS. OUR FIRST AND GREATEST

SHORTAGE OCCURRED DURING THE VIETNAM CONFLICT. DURING

THAT PERIOD, AVIATOR REQUIREMENTS INCREASED SHARPLY. US.

ARMY PILOT TRAINING MULTIPLIED TO MEET THE DEMAND. SINCE

VIETNAM, WE HAVE EXPERIENCED LARGE MILITARY SPENDING CUTBACKS

AND PERSONNEL REDUCTIONS. WE WERE FORCED TO PROVIDE THE

BEST TRAINING AT THE LOWEST COST.

### (TRANSLATION)

THROUGH OUR EXPERIENCES. WE DISCOVERED A VALUABLE USE

FOR CIVILIAN FLIGHT INSTRUCTORS. DURING OUR TRAINING INCREASES,

CIVILIAN INSTRUCTORS WERE HIRED TO AUGMENT THE MILITARY

INSTRUCTOR FORCE. THIS FREED GREATER NUMBERS OF MILITARY

INSTRUCTORS TO FILL UNIT POSITIONS WHERE THEIR KNOWLEDGE

AND EXPERIENCE COULD BE A DECIDING FACTOR IN UNIT

EFFECTIVENESS. WHEN MILITARY SPENDING AND PERSONNEL

WERE REDUCED, CIVILIAN FLIGHT INSTRUCTORS PROVED TO

BE A ECONOMICAL METHOD OF TRAINING AVIATORS.

### (TRANSLATION)

SLIDE 2 THREE METHODS WHERE ROKA COULD MAKE USE OF CIVILIAN FLIGHT INSTRUCTORS ARE USE OF:

ROK ARMY CIVILIANS,

KOREAN CONTRACT FLIGHT TRAINING, OR

THIRD PARTY (NON-KOREAN) CONTRACT FLIGHT TRAINING

### (TRANSLATION)

THE REPUBLIC OF KOREA ALREADY USES MANY CIVILIAN

EMPLOYEES TO AUGMENT GOVERNMENT ORGANIZATIONS. TO CITE AN

EXAMPLE THERE ARE NUMEROUS NON-MILITARY PERSONNEL WHO

WORK DIRECTLY FOR ROKA AT THE DEPOT MAINTENANCE FACILITY IN CHINHAE. BY SEEKING OUT AND HIRING QUALIFIED CIVILIANS AS FLIGHT INSTRUCTORS, ROKA COULD INCREASE ITS NUMBER OF FLIGHT INSTRUCTORS IN A SHORT TIME FRAME. THIS PROGRAM IS DEPENDENT ON THERE BEING CIVILIANS THAT ARE QUALIFIED AS FLIGHT INSTRUCTORS OR REQUIRE LITTLE TRAINING TO BECOME FLIGHT INSTRUCTORS. WITHIN THE US. ARMY THERE ARE NUMEROUS CIVILIAN INSTRUCTOR PILOTS. MOST OF THESE DEPARTMENT OF THE ARMY CIVILIANS ARE MILITARY PILOTS WHO RETIRED OR SEPARATED FROM THE ACTIVE MILITARY. THE COST OF TRAINING THESE PILOTS, WHEN THEY WERE IN THE MILITARY, IS SPREAD OVER A LONGER PERIOD BECAUSE OF THIS ADDITIONAL UTILIZATION. MANY OF OUR BEST INSTRUCTOR PILOTS ARE CIVILIANS. THEIR

YEARS OF MILITARY EXPERIENCE HAVE PROVIDED & SOUND BACKGROUND

AS INSTRUCTOR PILOTS.

### (TRANSLATION)

IF ROKA CAN BENEFIT BY A SIMILAR PROGRAM, IT WOULD BE HELPFUL TO DEVELOP A CAREER PATTERN SPECIFICALLY FOR THIS PURPOSE. THIS CAREER PATTERN WOULD HELP ROKA TO MANAGE THE ASSIGNMENTS OF THEIR AVIATORS OF US ADD AN INCENTIVE FOR PILOTS PRESENTLY ON ACTIVE DUTY. IF AN AVIATOR WAS KNOWLEDGEABLE OF A FUTURE POSITION AS A ROK ARMY CIVILIAN INSTRUCTOR PILOT, HE WOULD STRIVE HARDER TO IMPROVE HIS PERFORMANCE AND INCREASE HIS KNOWLEDGE.

### (TRANSLATION)

EVEN IF A PROGRAM OF THIS SORT IS NOT FEASIBLE DUE TO

A LACK OF QUALIFIED CIVILIANS, IT MAY BE CONSIDERED FOR

THE FUTURE WHEN MORE MILITARY TRAINED PILOTS HAVE DEPARTED THE SERVICE.

### (TRANSLATION)

AT THE US ARMY AVIATION CENTER, APPROXIMATELY 60% OF THE
INITIAL FLIGHT TRAINING IS TAUGHT BY A CIVILIAN FIRM UNDER
MILITARY CONTRACT. INITIALLY IT WAS STARTED TO DECREASE THE
REQUIRED NUMBERS OF MILITARY INSTRUCTORS. IN MORE RECENT
YEARS WE HAVE FOUND THAT CONTRACTED FLIGHT TRAINING IS VERY
ECONOMICAL. IN 1977 THE INSTRUMENT PORTION OF STUDENT
AVIATOR TRAINING WAS TAKEN OVER BY THE CIVILIAN FIRM

### (TRANSLATION)

BECAUSE OVERALL IT WAS EASIER AND CHEAPER TO CONDUCT.

SLIDE 4 A SIMILAR PROGRAM MAY BE ADVANTAGEOUS FOR ROKA AVIATOR

TRAINING. EVEN IF CONDUCTED ON A SMALL SCALE, IT WOULD HELP

RELIEVE THE MILITARY TRAINING LOAD. SOME OR ALL OF
INITIAL PILOT TRAINING COULD BE CONTRACTED. EVEN
ADVANCED AIRCRAFT QUALIFICATIONS SUCH AS THE CH-47 OR
500 M-D COULD BENEFIT FROM CONTRACT TRAINING. KOREAN AIR
LINES IS ALREADY INVOLVED IN MILITARY CONTRACTS AND MAY BE
CAPABLE OF EXPANDING THEIR CIVILIAN PILOT PROGRAMS FOR
ROKA. EVEN IF CIVILIAN CONTRACT FLIGHT TRAINING IS NOT
ECONOMICAL FOR A LONG PERIOD, IT MAY BE WORTH THE COST
TO HELP FILL THE PERSONNEL SHORTAGES BY 1986.

ONE DRAWBACK TO USING CIVILIAN CONTRACT INSTRUCTORS

IS THAT SOME MILITARY PILOTS WOULD BE ATTRACTED TO CIVILIAN

JOBS.

(TRANSLATION)

IF ROKA DOES DESIRE TO CONTRACT ALL OR A PART OF ITS

FLIGHT TRAINING, IT MAY HAVE PROBLEMS LOCATING A FIRM CAPABLE

OF QUICKLY SATISFYING THE CONTRACT. HIRING OF A NON-KOREAN

FIRM TO CONDUCT FLIGHT TRAINING UNTIL KOREAN ASSETS CAN

ASSUME AVIATOR TRAINING MAY PRESENT ANOTHER POSSIBILITY.

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### (TRANSLATION)

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CONTRACT TRAINING IN THE MIDDLE EAST. THEY ALREADY HAVE

TRAINED INSTRUCTORS AND COULD ASSUME A LARGE TRAINING PROGRAM

VERY QUICKLY. CERTAIN OTHER AIRCRAFT MANUFACTURERS MAY ALSO

HAVE THIS CAPABILITY. SINCE THEY ALREADY HAVE INSTRUCTORS

AND EXPERIENCE, THEY COULD REACT QUICKLY TO BOOST THE

ROKA AVIATION SCHOOL'S STUDENT OUTPUT. A PROGRAM OF THIS

NATURE MAY BE UNDESIRABLE OVER AN EXTENDED NUMBER OF
YEARS, BUT AS A TEMPORARY MEASURE, IT WOULD BE VERY
RESPONSIVE. BY HIRING A CIVILIAN FIRM WITH FLIGHT
INSTRUCTORS READILY AVAILABLE, THE TIME TO TRAIN LARGE
NUMBERS OF INSTRUCTOR PILOTS CAN BE SAVED. THE LARGEST
DELAY WOULD BE PLANNING AND COORDINATING FOR THIS TRAINING
PROGRAM.

### (TRANSLATION)

SLIDE 6 NONE OF THESE OPTIONS MAY BE THE BEST BY ITSELF.

A COMBINATION OF THESE OPTIONS MAY BEST SUIT THE ROKA

OVERALL OBJECTIVES. NEVERTHELESS ALL SHOULD BE CONSIDERED

AS A POSSIBLE OPPORTUNITY TO MEETING THE TRAINING GOAL OF

APPROXIMATELY 1800 PILOTS BY 1986. FURTHER INVESTIGATION

MAY REVEAL AN ADVANTAGE TO CIVILIAN FLIGHT INSTRUCTION IN THE YEARS PAST 1986.

ARE THERE ANY QUESTIONS CONCERNING THE PRESENTATION?

(TRANSLATION)

### FRE **PILOTS** INSTRUCTORS TO CVILIAN MILITARY USE OF (

## ROK ARMY CIVILIANS

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## KOREAN CONTRACT FLIGHT TRAINING

### THIRD PARTY (NON-KOREAN) CONTRACT FLIGHT TRAINING



### INITIAL FLIGHT QUALIFICATION COURSE U.S. ARMY AVIATION CENTER

COMBAT SKILLS

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CIVILIAN CONTRACT TRAINING

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MIDDLE EAST

NON-KOREAN CIVILIAN FLIGHT INSTRUCTION

BELL HELICOPTER INTERNATIONAL

KOREA

## ROK ARMY CIVILIANS

## KOREAN CONTRACT FLIGHT TRAINING

### THIRD PARTY (NON-KOREAN) CONTRACT FLIGHT TRAINING

DURING THIS PERIOD WE WILL EXPLORE THE CURRENT US. THREE

LEVEL AIRCRAFT MAINTENANCE SYSTEM AS COMPARED TO THE ROK FOUR

LEVEL MAINTENANCE SYSTEM. BEFORE WE GO INTO GREAT DETAIL LET

ME FIRST EXPLAIN THE SLIGHT DIFFERENCES IN TERMINOLOGY.

### (TRANSLATION)

LIDE 1

THE US. ARMY REFERS TO A FOUR LEVEL SYSTEM WHEREAS ROKA

CALLS IT A 5 LEVEL SYSTEM. IN THE US. ARMY WE HAVE COMBINED

OPERATOR AND UNIT MAINTENANCE INTO ORGANIZATIONAL MAINTENANCE.

YOU, IN THE ROK ARMY, DISTINQUISH BETWEEN THESE TWO LEVELS.

### (TRANSLATION)

- SLIDE 3 PRIOR TO THE 1970'S, THE US. ARMY USED A FOUR LEVEL MAINTENANCE STRUCTURE. THESE LEVELS WERE:
  - 1. ORGANIZATIONAL (OPERATOR AND UNIT) MAINTENANCE
  - 2. DIRECT SUPPORT MAINTENANCE

- 3. GENERAL SUPPORT MAINTENANCE
- 4. DEPOT/OVERHAUL MAINTENANCE

THE BASIC PHILOSOPHY BEHIND THIS MAINTENANCE STRUCTURE

WAS TO "REMOVE AND REPLACE" UNSERVICEABLE COMPONENTS,

ESPECIALLY AT THE LOWER LEVELS. THE DIRECT SUPPORT AIRCRAFT

MAINTENANCE COMPANIES PROVIDED A "REPAIR AND RETURN TO USER"

SERVICE. AT GENERAL SUPPORT AND DEPOT LEVELS, THEIR

MAINTENANCE WAS BOTH A "REPAIR AND RETURN TO USER" PLUS A

"REPAIR AND RETURN TO THE SUPPLY SYSTEM" SERVICE. THE

MAINTENANCE WAS STRUCTURED AROUND THE SUPPLY SYSTEM.

### (TRANSLATION)

A MAJOR PROBLEM ASSOCIATED WITH THIS FOUR LEVEL SYSTEM,
WAS THAT AVIATION UNITS OFTEN ATTEMPTED TO DO REPAIR BEYOND
THEIR CAPABILITY. THIS WAS PROMPTED BY THE FEELING THAT

ONCE AN AIRCRAFT WAS EVACUATED TO A HIGHER LEVEL OF MAINTENANCE,
IT WAS UNAVAILABLE FOR TOO LONG A PERIOD. THIS WAS ESPECIALLY
TRUE IF IT HAD TO BE EVACUATED TWICE TO GET TO GENERAL SUPPORT.
BY ATTEMPTING TO PERFORM DIRECT SUPPORT OR EVEN GENERAL
SUPPORT REPAIRS, ORGANIZATION MAINTENANCE SUFFERED BECAUSE
OF THE TIME AND PERSONNEL DEVOTED TO UNAUTHORIZED REPAIRS.

### (TRANSLATION)

DURING VIETNAM WE FOUND A NEED TO INCREASE THE UNIT'S

MAINTENANCE CAPABILITY. AVIATION UNITS WERE FACED WITH

A GREATER REPAIR FREQUENCY AND HIGHER AVAILABILITY REQUIREMENT.

WE ESTABLISHED CONTACT TEAMS FROM DIRECT SUPPORT TO ASSIST.

THE UNITS.

SLIDE 4

THIS WAS THE BEGINNING OF INTEGRATED DIRECT SUPPORT

COMPONENT REPAIR AT THE AVIATION UNIT LEVEL. THE IDSM

CONCEPT WORKED ESPECIALLY WELL DURING COMBAT OPERATIONS

BECAUSE IT ALLOWED THE AVIATION UNIT COMMANDER TO REPAIR

AIRCRAFT WITH MINOR DAMAGE AND GET THEM BACK INTO OPERATION.

OFTEN IT PRECLUDED EVACUATION OF AIRCRAFT TO HIGHER LEVELS

OF MAINTENANCE.

### (TRANSLATION)

FOLLOWING VIETNAM, THE US, ARMY CONDUCTED A STUDY

ON AIRCRAFT MAINTENANCE. AS A RESULT OF THIS STUDY, WE

REORGANIZED OUR MAINTENANCE STRUCTURE INTO A THREE LEVEL

MAINTENANCE SYSTEM FOR ARMY AIRCRAFT.

(TRANSLATION)

SLIDE 5

THIS NEW SYSTEM WAS DESIGNED TO PROVIDE MAXIMUM SUPPORT FOR

AVIATION UNITS ENGAGED IN COMBAT. TWO CONSIDERATIONS
IMPORTANT TO THE REORGANIZATION WERE:

- 1. PROVIDE MAINTENANCE AS FAR FORWARD AS POSSIBLE.
- 2. TAILOR THE ORGANIZATIONS TO ACCOMMODATE THE MAINTENANCE SYSTEM AS OPPOSED TO THE SUPPLY SYSTEM.

ORGANIZED UNDER THIS THREE LEVEL MAINTENANCE CONCEPT. WE WILL NOW TAKE A CLOSER LOOK AT THIS NEW ORGANIZATION.

### (TRANSLATION)

THE LOWEST LEVEL OF AIRCRAFT MAINTENANCE IS CALLED

THE AVIATION UNIT MAINTENANCE OR AVUM. IT IS A

COMBINATION OF WHAT WAS FORMERLY ORGANIZATIONAL AND

DIRECT SUPPORT MAINTENANCE. THIS REORGANIZATION WAS AN

INCORPORATION OF THE INTEGRATED DIRECT SUPPORT MAINTENANCE

INTO THE AVIATION MAINTENANCE ORGANIZATION. APPROXIMATELY 60% OF DIRECT SUPPORT FUNCTIONS BECAME UNIT MAINTENANCE FUNCTIONS. MOST OF THESE AVIATION UNIT MAINTENANCE FUNCTIONS INVOLVE A HIGH FREQUENCY; "ON-AIRCRAFT" MAINTENANCE TASKS THAT REQUIRE LITTLE AIRCRAFT DOWN TIME. THESE UNIT MAINTENANCE FUNCTIONS ARE OFTEN LIMITED BY THE AMOUNT AND COMPLEXITY OF THE GROUND SUPPORT EQUIPMENT, THE SKILL LEVEL REQUIRED TO DO THE REPAIR, AND THE FACILITIES REQUIRED. EVEN THOUGH IT IS INTENDED TO GIVE THE UNIT A GREATER REPAIR CAPABILITY, WE MUST INSURE THAT IT IS STILL MOBILE AND CAN KEEP PACE OF THE TACTICAL SITUATION. IN EFFECT WE HAVE GIVEN THE AVIATION COMMANDER A GREATER ABILITY TO REPAIR HIS AIRCRAFT. BY DOING THIS, THE COMMANDER CAN DIRECTLY INFLUENCE AIRCRAFT AVAILABILITY AS IS NEEDED

TO SUPPORT COMBAT OPERATIONS. ADDITIONALLY, HE NEED NOT
FEAR LOOSING AN AIRCRAFT FOR LONG PERIODS OF TIME, DUE TO
EVACUATING AIRCRAFT TO A HIGHER LEVEL OF MAINTENANCE. THOSE
REPAIR FUNCTIONS THAT CAN BE ACCOMPLISHED IN A SHORT PERIOD
OF TIME ARE NOW ALLOCATED TO THE UNIT LEVEL. THE ADDITION
OF PERSONNEL AND EQUIPMENT TO UNIT ORGANIZATION, INSURES
THAT NORMAL UNIT MAINTENANCE DOES NOT SUFFER FROM ATTEMPTING
NON-AUTHORIZED REPAIRS.

### (TRANSLATION)

SLIDE 7 BEFORE I CONTINUE, LET ME EXPLAIN THAT NOT EVERY

AVIATION ORGANIZATION CAN MAKE EFFICIENT USE OF AN AVIATION

UNIT MAINTENANCE CAPABILITY. LS ARMY EXPERIENCE HAS SHOWN

THAT UNITS WITH 10 OR MORE OF ONE TYPE AIRCRAFT ARE BEST

SUITED TO ASSUME AVIATION UNIT MAINTENANCE FUNCTIONS. WITH

FREQUENCY TO JUSTIFY THE ADDITIONAL CAPABILITY. THIS MAY

BE A DECIDING FACTOR IN YOUR PROPOSED REORGANIZATION OF

AVIATION UNITS WITHIN THE REPUBLIC OF KOREA. FOR THOSE

UNITS THAT HAVE LESS THAN 10 OF ONE TYPE AIRCRAFT THEY RECEIVE

UNIT MAINTENANCE SUPPORT FROM THE NEXT HIGHER LEVEL OF

MAINTENANCE.

### (TRANSLATION)

INTERMEDIATE MAINTENANCE UNITS OR AVIM. THESE INTERMEDIATE

MAINTENANCE UNITS HAVE THE CAPABILITY TO PERFORM UNIT

MAINTENANCE ON THEIR OWN AIRCRAFT AND AIRCRAFT BELONGING

TO UNITS NOT AUTHORIZED AVIATION UNIT MAINTENANCE FUNCTIONS.

(TRANSLATION)

THE INTERMEDIATE MAINTENANCE IS A COMBINATION OF WHAT WAS FORMERLY DIRECT SUPPORT AND GENERAL SUPPORT. THE 40% OF THE DIRECT SUPPORT FUNCTIONS NOT ALLOCATED TO UNIT MAINTENANCE IS NOW AN INTERMEDIATE MAINTENANCE CAPABILITY. ADDITIONALLY, APPROXIMATELY 40% OF WHAT WAS PREVIOUSLY ALLOCATED TO GENERAL SUPPORT. PROBABLY YOUR FIRST QUESTION IS WHY DOES INTERMEDIATE MAINTENANCE ONLY HAVE 40% OF THE GENERAL SUPPORT FUNCTION? DOES THIS MEAN THAT THEY HAVE LOST SOME CAPABILITY? THE ANSWER IS YES. WE HAVE TAKEN THOSE GENERAL SUPPORT MAINTENANCE FUNCTIONS THAT WERE TIME CONSUMING AND DETAILED AND ALLOCATED THEM TO DEPOT LEVEL. THESE FUNCTIONS WERE NOT CONSISTENT WITH A QUICK TURN AROUND OF AIRCRAFT. BY INSURING THAT AIRCRAFT ARE QUICKLY REPAIRED AND RETURNED TO THE USER, WE PROMOTE COOPERATION BETWEEN

THE USER AND FIXER. IF THE AVIATION COMMANDER KNOWS HE
WILL GET AIRCRAFT REPAIRED QUICKLY, HE WILL BE MORE WILLING
TO EVACUATE AIRCRAFT FOR REPAIRS.

### (TRANSLATION)

UNIT MAINTENANCE AND GET THE AIRCRAFT BACK TO THE USER AS

SOON AS POSSIBLE. THOSE FUNCTIONS THAT REQUIRE SOPHISTICATED

EQUIPMENT, HIGHLY SKILLED PERSONNEL AND MAJOR DISASSEMBLY

ARE BEST ACCOMPLISHED AT THE DEPOT WHERE THE TIME, PERSONNEL,

AND EQUIPMENT ARE AVAILABLE.

### (TRANSLATION)

SLIDE 10 THE INTERMEDIATE MAINTENANCE ALSO SUPPORTS THE SUPPLY

SYSTEM. IT HAS A LIMITED COMPONENT REPAIR CAPABILITY. THOSE

COMPONENTS THAT CAN BE REPAIRED BY REPLACING COMMON HARDWARE,

SEALS OR CLEANING, ARE REPAIRED AND PLACED INTO THE SUPPLY SYSTEM. AVIATION INTERMEDIATE MAINTENANCE PROVIDES A DIRECT EXCHANGE CAPABILITY FOR THE AVIATION UNIT

### (TRANSLATION)

THE UNIT MAINTENANCE, AVIATION INTERMEDIATE MAINTENANCE CAN
HELP RELIEVE A UNIT MAINTENANCE OVERLOAD DURING COMBAT.

THEY CAN PERFORM UNIT MAINTENANCE FUNCTIONS WHEN THE UNIT
IS SO BUSY IT CANNOT REPAIR THE AIRCRAFT QUICKLY. AGAIN
WE SEE THE EMPHASIS ON GETTING A SERVICEABLE AIRCRAFT BACK
TO THE USER.

MORE THAN ONE INTERMEDIATE MAINTENANCE UNIT

MAY BE AVAILABLE TO SUPPORT AN AVIATION UNIT. ALSO

INTERMEDIATE MAINTENANCE UNITS MAY VARY IN ORGANIZATION

AND CAPABILITY. THE DETERMINING FACTOR IS THE UNITS THAT

AN AVIATION INTERMEDIATE MAINTENANCE UNIT SUPPORTS.

### (TRANSLATION)

PROBABLY HAVE AN INTERMEDIATE MAINTENANCE COMPANY ASSIGNED.

THIS DIVISIONAL INTERMEDIATE MAINTENANCE COMPANY WILL HAVE

THE CAPABILITY THE TYPE OF AIRCRAFT WITHIN THE DIVISION

(NORMALLY HELICOPTERS).

### (TRANSLATION)

INTERMEDIATE MAINTENANCE COMPANIES. THESE WILL PROVIDE

BACKUP TO THE DIVISIONAL COMPANIES PLUS OTHER NON-DIVISIONAL

AVIATION UNITS BELONGING TO THE CORPS. THIS CORPS INTERMEDIATE

MAINTENANCE UNIT MAY HAVE AN INCREASED CAPACITY DUE TO A
LARGER VARIETY OF AIRCRAFT WITHIN THE CORPS AND THE NEED
TO BACKUP SEVERAL DIVISIONAL UNITS.

### (TRANSLATION)

THE LAST LEVEL OF THIS THREE LEVEL SYSTEM IS DEPOT SLIDE 13 MAINTENANCE. THE DEPOT, UNDER THIS REORGANIZATION, HAS ASSUMED A GREATER CAPABILITY. IT HAS ABSORBED ALMOST 60% OF THE OLD GENERAL SUPPORT FUNCTIONS INTO ITS CAPABILITY. THESE FUNCTIONS ARE THOSE THAT ARE BEST PERFORMED WHEN THE PERSONNEL, TIME AND EQUIPMENT ARE AVAILABLE. NORMALLY THESE EXTENSIVE GENERAL SUPPORT FUNCTIONS ARE SCHEDULED DURING OVERHAUL. IF AN AIRCRAFT IS DAMAGED BEYOND THE INTERMEDIATE MAINTENANCE CAPABILITY TO REPAIR, IT IS OFTEN MORE ECONOMICAL TO EVACUATE THE AIRCRAFT

AVAILABLE. THIS DOES NOT DISTRACT FROM THE INTERMEDIATE

MAINTENANCE MISSION TO PROVIDE RESPONSIVE MAINTENANCE AND

RETURN THE MAXIMUM NUMBER OF FLYABLE AIRCRAFT TO SUPPORT

OF THE COMBAT FORCES.

### (TRANSLATION)

SYSTEM WE SEE HOW OUR OBJECTIVES ARE ACCOMPLISHED. WE PROVIDE

MAINTENANCE SUPPORT AS FAR FORWARD AS POSSIBLE. THE USER HAS

A GREATER REPAIR CAPABILITY. THE INTERMEDIATE MAINTENANCE IS

MORE RESPONSIVE TO QUICK REPAIR AND RETURN TO THE USER. DETAILS

AND TIME CONSUMING TASK ARE AT DEPOT AND DO NOT DISTRACT FROM

SUPPORTING COMBAT FORCES. THE SECOND OBJECTIVE OF

ORGANIZATION BY MAINTENANCE FUNCTION IS ALSO EMPHASIZED.

THE UNIT MAINTENANCE AND INTERMEDIATE MAINTENANCE UNITS

ARE ORGANIZED TO BEST PERFORM MAINTENANCE FUNCTIONS. EACH

UNIT IS DESIGNED TO PERFORM CERTAIN FUNCTIONS ECONOMICALLY.

THE ELIMINATION OF A LEVEL OF MAINTENANCE DOES NOT AFFECT

THE MISSION SUPPORT. OVERALL WE NOW HAVE A "ONE-STOP"

MAINTENANCE ECHELON BETWEEN UNIT AND DEPOT. MAINTENANCE

UNITS ARE ORGANIZED AROUND THE TIME, PERSONNEL SKILLS AND

FACILITIES NECESSARY TO PERFORM THEIR REPAIRS.

### (TRANSLATION)

BY ORGANIZING UNDER THE 3 LEVEL MAINTENANCE, DUPLICATION

OF PERSONNEL AND EQUIPMENT CAN BE REDUCED. AT THE AVIATION

UNIT MAINTENANCE LEVEL MORE PERSONNEL AND EQUIPMENT ARE

ADDED TO THE GRGANIZATION. OBVIOUSLY THERE IS NO SAVING

AT THIS LEVEL. THE REAL SAVINGS IN PERSONNEL AND

LEVEL. WHERE PERSONNEL AND EQUIPMENT WERE NEEDED AT THE DIRECT SUPPORT AND GENERAL SUPPORT LEVELS PREVIOUSLY, THERE IS ONLY ONE LEVEL, THE AVIATION INTERMEDIATE MAINTENANCE, UNDER THE 3 LEVEL SYSTEM. THIS COULD RESULT IN A SAVINGS IN PERSONNEL AND EQUIPMENT.

### (TRANSLATION)

ONE IMPORTANT CONSIDERATION FOR ROKA IS THAT THE PRESENT US. HELICOPTER UNITS IN KOREA ARE NOW OPERATING UNDER THIS THREE LEVEL SYSTEM. SUPPLY AND MAINTENANCE FUNCTIONS ARE STRUCTURED BY THIS THREE LEVEL CONCEPT.

### (TRANSLATION)

EVEN IF ROKA DOES NOT DESIRE TO RESTRUCTURE ITS

AVIATION MAINTENANCE, A THOROUGH UNDERSTANDING OF THE 3

LEVEL SYSTEM IS NECESSARY FOR THE PROPOSED TRANSFER OF

US ARMY HELICOPTER ASSETS. THROUGH THIS UNDERSTANDING,

THE TRANSFER OF EQUIPMENT WILL BE ACCOMPLISHED MUCH EASIER.

### (TRANSLATION)

SLIDE 15 ARE THERE ANY QUESTIONS ON THIS PRESENTATION?

WE WILL NOW TAKE TIME TO ALLOW YOU TO FORMULATE YOUR

CONCLUSIONS AND RECOMMENDATIONS.

# U.S. 3 LEVEL AIRCRAFT MAINTENANCE

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ROK 4 LEVEL AIRCRAFT MAINTENANCE

4 OR 5 LEVEL MAINTENANCE

Salara de Cara 
~	DEPOT		
<b>~</b>	GENERAL SUPPORT		
2	DIRECT SUPPORT		
U.S. (4)	ORGANIZATIONAL		

ico	DEPOT	
4	GENERAL SUPPORT	
æ	DIRECT SUPPORT	
2	UNIT	
ROK (5)	OPERATOR	

## U.S. ARMY FOUR LEVEL MAINTENANCE

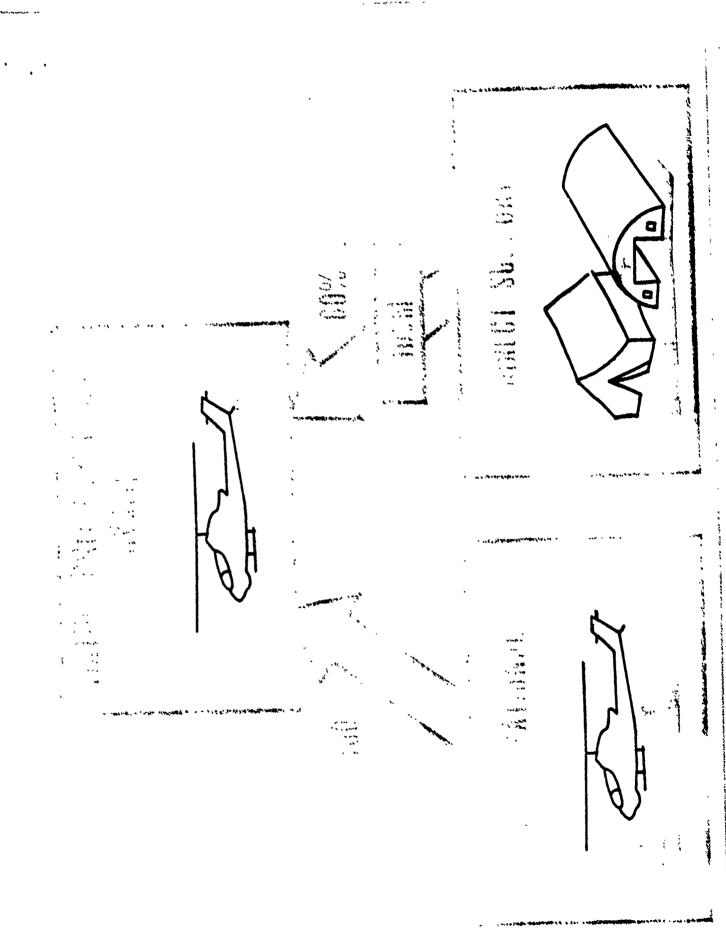
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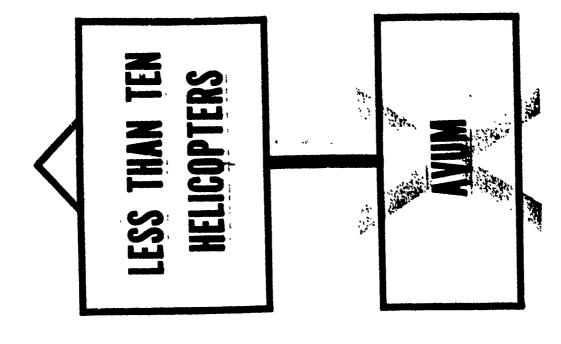
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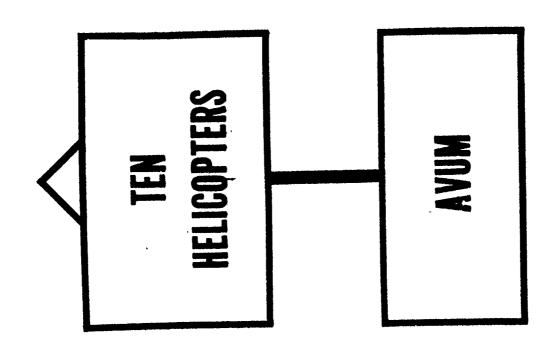
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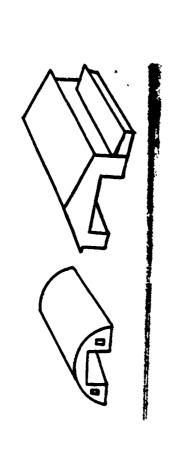


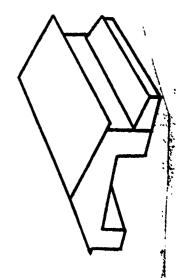


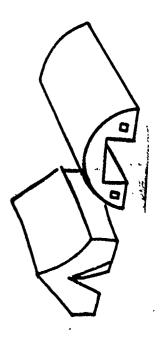


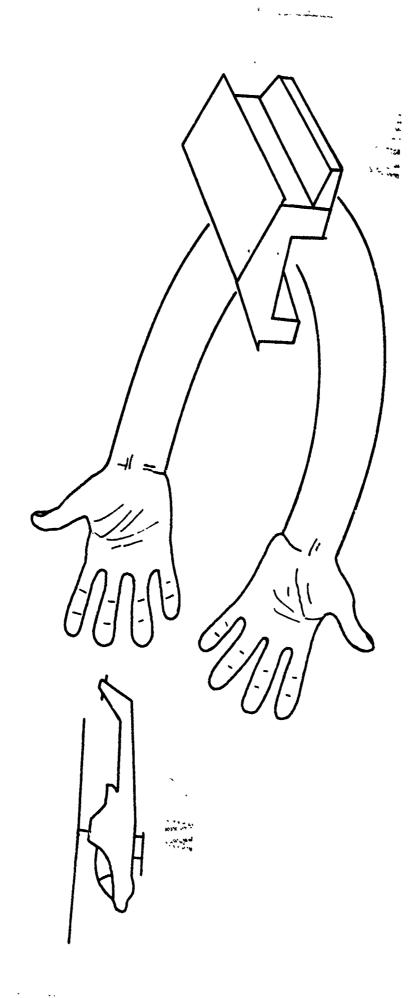
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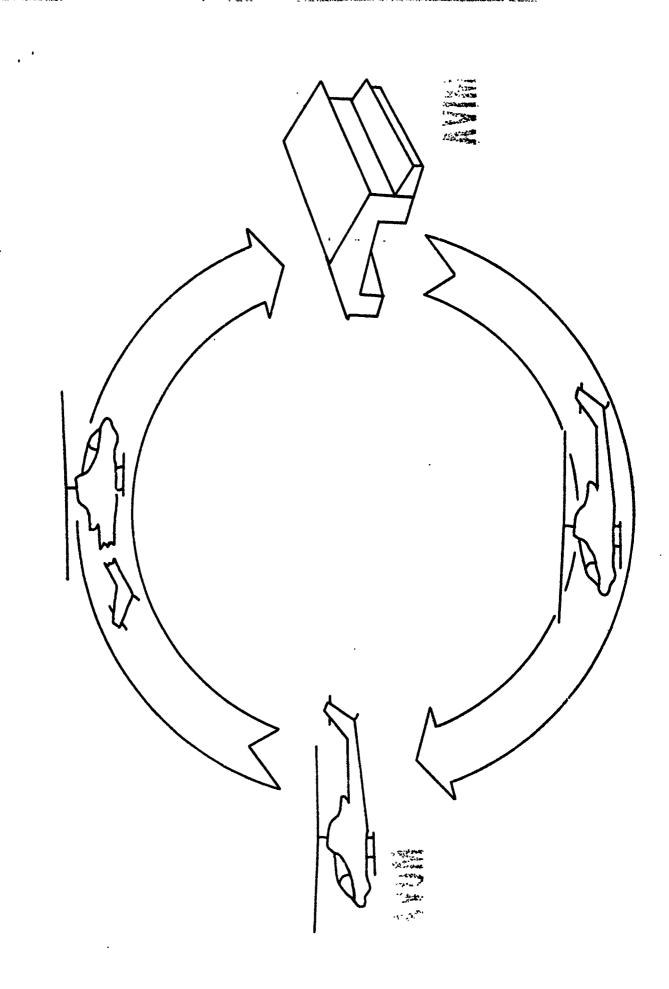




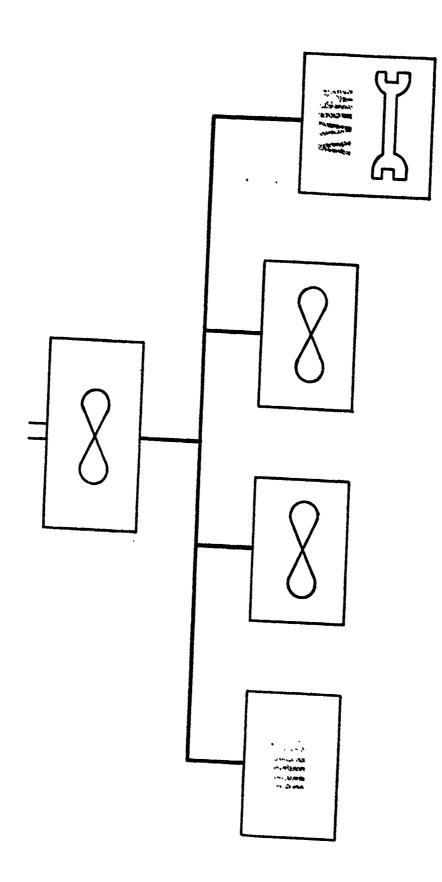


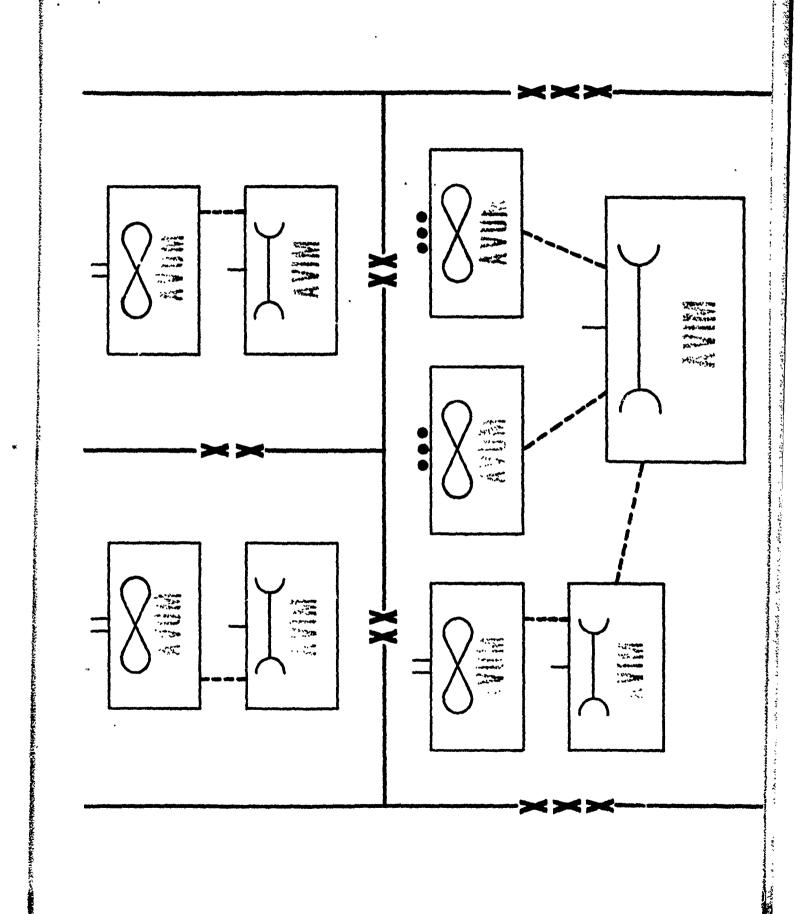


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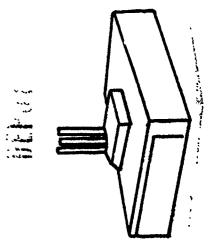
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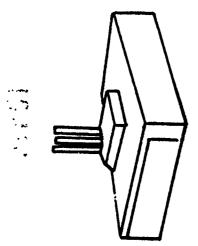
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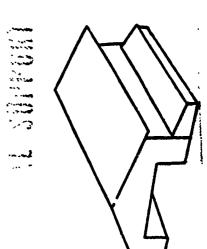


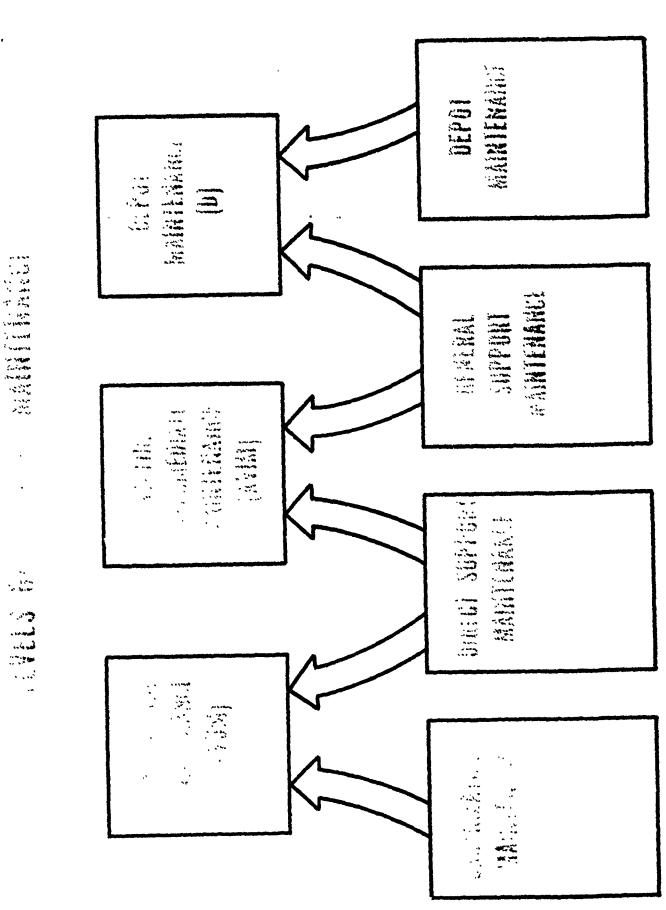
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# U.S. 3 LEVEL AIRCRAFT MAINTENANCE

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ROK 4 LEVEL AIRCRAFT MAINTENANCE

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THE NEXT MANAGEMENT OPPORTUNITY WE WILL DISCUSS IS "CONTRACT MAINTENANCE AT DEPOT LEVEL." BECAUSE OF THE COMPLEX WORK DONE AT THE DEPOT LEVEL OF MAINTENANCE, IT INVOLVES NUMEROUS TASKS WHICH REQUIRE HIGHLY TRAINED PERSONNEL AND SOPHISTICATED EQUIPMENT. BECAUSE OF THIS, THE BEST TRAINED PERSONNEL AND MOST EXPERIENCED PERSONNEL ARE SELECTED TO WORK AT DEPOT LEVEL. BECAUSE OF THE LARGE INCREASES IN ROKA AVIATION ASSETS PROJECTED FOR 1982, PROVISIONS FOR DEPOT MAINTENANCE MUST BE MADE.

## (TRANSLATION)

SLIDE 2 FOUR SPECIFIC OPTIONS WE WILL ADDRESS ARE:

SLIDE 1

- 1. TOTAL MILITARY DEPOT MAINTENANCE
- 2. MILITARY CONTROL OF DEPOT MAINTANENCE WITH KOREAN CIVILIAN EMPLOYEES

- 3. KOREAN CIVILIAN CONTRACT DEPOT MAINTENANCE
- 4. THIRD PARTY (NON-KOREAN) CIVILIAN CONTRACT DEPOT
  MAINTENANCE

## (TRANSLATION)

IF ROKA INTENDS TO PROVIDE TOTAL MILITARY DEPOT

MAINTENANCE, THERE ARE SEVERAL REQUIREMENTS THAT MUST BE

SATISFIEID.

FERSONNEL AND LOCATING A SUITABLE DEPOT FACILITY. BECAUSE

OF THE RELATIVELY LOW DENSITY OF SOPHISTICATED TURBINE

AIRCRAFT PRESENTLY OWNED BY ROKA, THERE ARE FEW PERSONNEL

WITH THE EXPERIENCE NEEDED TO PERFORM DEPOT LEVEL MAINTENANCE

ON SUCH AIRCRAFT. THIS PRESENTS A LARGE TRAINING REQUIREMENT

FOR THE ROK ARMY.

THIS MEANS THAT ROKA WOULD HAVE TO ESTABLISH AN EXTENSIVE TRAINING PROGRAM IN ADDITION TO TRAINING CREW CHIEFS AND MECHANICS TO FILL THE AVIATION UNIT POSITIONS. BECAUSE THE HUGHES 500 M-D AND THE AH-1J ARE RELATIVELY NEW AIRCRAFT, IT IS ANTICIPATED THAT THERE WOULD BE FEW DEPOT MAINTENANCE REQUIREMENTS FOR THESE AIRCRAFT IN THE NEXT FEW YEARS. THIS MAY ALLOW FOR A DELAY IN THE NECESSITY TO TRAIN DEPOT PERSONNEL SPECIFICALLY FOR THE 500 M-D AND AH-1J. HOWEVER, THERE WILL BE A LARGE REQUIREMENT FOR DEPOT MAINTENANCE ON THE UH-1H, CH-47, AND AH-1G WHICH MUST BE PLANNED FOR.

## (TRANSLATION)

BESIDES PERSONNEL REQUIREMENTS, A SUITABLE MAINTENANCE FACILITY MUST BE LOCATED TO HOUSE THE DEPOT MAINTENANCE.

THIS MAY INVOLVE EXPANDING EXISTING FACILITIES OR

BUILDING A COMPLETELY NEW STRUCTURE. IN ADDITION TO

THE BUILDING, NUMEROUS SOPHISTICATED TOOLS AND MANY

REPAIR PARTS MUST BE PROVIDED. THE COST OF ESTABLISHING

A DEPOT FACILITY WILL BE VERY HIGH. ALSO SEPARATE

FACILITIES MAY BE REQUIRED FOR CERTAIN AIRCRAFT SYSTEMS

SUCH AS ARMAMENT AND RADIOS.

## (TRANSLATION)

THE BEST ADVANTAGE TO TOTAL MILITARY DEPOT MAINTENANCE

IS THE ABILITY TO QUICKLY CHANGE THE OUTPUT LEVEL. IT CAN

BE MORE RESPONSIVE TO THE NEEDS OF THE MILITARY DURING

NATIONAL EMERGENCIES OR COMBAT OPERATIONS.

PRESENTLY WITHIN ROKA, SOME AIRCRAFT DEPOT MAINTENANCE
IS PERFORMED BY MILITARY DEPOTS WITH NUMEROUS CIVILIAN
EMPLOYEES. THIS CONCEPT MAY ALSO BE SUITABLE TO PROVIDE
DEPOT MAINTENANCE FOR THE PROJECTED AIRCRAFT INCREASES.

### (TRANSLATION)

THIS WOULD STILL PLACE A REQUIREMENT ON THE MILITARY

TO TRAIN LARGE NUMBERS OF EITHER MILITARY OR CIVILIAN

PERSONNEL. AS THE NUMBERS OF OH-23'S AND O-1'S ARE DECREASED

BETWEEN NOW AND 1982, SOME OF THESE DEPOT PERSONNEL COULD

BE RETAINED ON THE NEW AIRCRAFT SYSTEMS. THIS MAY HELP TO

REDUCE SOME OF THE TRAINING REQUIREMENT.

## (TRANSLATION)

THE REQUIREMENT FOR A DEPOT FACILITY, EQUIPMENT AND

MILITARY DEPOT MAINTENANCE. EXPERIENCE WITH DEPOT

MAINTENANCE ON THE OH-23 AND O-1 WILL PROVIDE MUCH

INFORMATION ON THE SUCCESS OF MILITARY MAINTENANCE

USING CIVILIAN EMPLOYEES.

## (TRANSLATION)

SLIDE 6 ANOTHER ALTERNATIVE AVAILABLE TO ROKA IS TO CONTRACT
WITH A CIVILIAN FIRM FOR DEPOT MAINTENANCE. THIS MAY BE DONE
FOR ALL OR PART OF THE ROKA AIRCRAFT FLEET. FOR EXAMPLE,
AS KAL PRODUCTION OF THE HUGHES 500 M-D DECREASES, THE SAME
FACILITY MAY BE CAPABLE OF INCREASING DEPOT MAINTENANCE FOR
THE 500 M-D. BY DOING THIS, ROKA WOULD PARTIALLY DECREASE
ITS REQUIREMENTS FOR BOTH PERSONNEL AND EQUIPMENT. KAL
ALREADY HAS TRAINED PERSONNEL AND A SUFFICIENT FACILITY

WHICH WOULD REDUCE THE INITIAL COSTS TO THE MILITARY.

ADDITIONALLY, THIS CONTRACT MAINTENANCE WOULD REDUCE THE

COST OF REPAIR PARTS THAT MUST BE STOCKED BY THE MILITARY.

CONTRACT MAINTENANCE DOES HAVE ONE MAJOR DISADVANTAGE. IT

IS NOT AS RESPONSIVE TO CHANGES IN OUTPUT LEVEL DURING COMBAT

OR NATIONAL EMERGENCIES.

## (TRANSLATION)

OUR US, ARMY EXPERIENCES WITH CONTRACT MAINTENANCE HAVE
SHOWN US SEVERAL ADVANTAGES. FIRST, IT FREES MILITARY
PERSONNEL TO FILL POSITIONS IN AVIATION AND MAINTENANCE
UNITS. SECONDLY, THE COST OF CONTRACT MAINTENANCE ARE VERY
CLOSE TO MILITARY MAINTENANCE COSTS. LASTLY, IT HAS
RESULTED IN A HIGHER AVAILABILITY RATE. THE MANUFACTURER

OF AN AIRCRAFT SHOULD BE CAPABLE OF BETTER AND PERHAPS

CHEAPER REPAIR OR OVERHAUL ON THAT AIRCRAFT. THE

MANUFACTURER'S QUALITY OF WORK IS HARD TO DUPLICATE

WITHIN THE MILITARY.

## (TRANSLATION)

EVEN IF CONTRACT DEPOT MAINTENANCE IS NOT DESIRABLE

OVER A LONG PERIOD OF TIME, IT COULD BE THE BEST ALTERNATIVE

FOR A SHORT NUMBER OF YEARS. IT COULD DECREASE THE

TRAINING LOAD ON THE TRANSPORTATION SCHOOL UNTIL UNIT

POSITIONS ARE FILLED. THEN ROKA SCHOOL TRAINING COULD

DEVOTE MORE INSTRUCTORS AND FACILITIES TO TRAINING DEPOT

LEVEL MAINTENANCE PERSONNEL.

ILIDE 7 THE LAST ALTERNATIVE TO DEPOT MAINTENANCE WE WILL DISCUSS

IS THIRD PARTY OR NON-KOREAN CONTRACT MAINTENANCE. IF ROKA DOES DECIDE TO USE CONTRACT MAINTENANCE FOR ALL OR SOME OF THEIR AIRCRAFT, YOU MAY NOT FIND A KOREAN FIRM CAPABLE OF SATISFYING SUCH A CONTRACT. SOME AIRCRAFT MANUFACTURERS MAY BE ABLE TO ASSUME DEPOT OR OVERHAUL REPAIRS. EVEN WITH DELAYS FOR STATE DEPARTMENT AND CONTRACT COORDINATION, IT COULD BE FASTER THAN TRAINING ROKA PERSONNEL AND BUILDING A DEPOT FACILITY. THIS MAY BE ESPECIALLY DESIRABLE FOR AIRCRAFT THAT ARE FEW IN NUMBERS SUCH AS THE CH-47 CHINOOK. THE REQUIREMENT FOR DEPOT REPAIRS MAY NOT BE LARGE ENOUGH TO JUSTIFY THE TIME AND MONEY NEEDED TO ESTABLISH A ROKA DEPOT FACILITY FOR THAT AIRCRAFT. THIRD PARTY CONTRACT

MAINTENANCE WOULD HAVE THE SAME ADVANTAGES AS KOREAN CONTRACT MAINTENANCE.

THE PERSONNEL AND EQUIPMENT REQUIREMENTS FOR ROKA WOULD BE REDUCED.

## (TRANSLATION)

ALTERNATIVES. EACH HAS ITS ADVANTAGES AND DISADVANTAGES.

NONE OF THESE ALONE MAY BE THE BEST SOLUTION FOR ROKA.

POSSIBLY A COMBINATION OF ALL OF THESE ALTERNATIVES WOULD

BEST MEET THE ROK ARMY REQUIREMENTS. YOU MUST TAILOR YOUR

DEPOT MAINTENANCE TO PROVIDE THE BEST SUPPORT FOR THE

PROJECTED AIRCRAFT INCREASES.

ARE THERE ANY QUESTIONS ABOUT ANY PORTION OF THE PRESENTATION?

YOU MAY NOW TAKE TIME TO DISCUSS AMONG YOURSELVES AND DETERMINE YOUR CONCLUSIONS AND RECOMMENDATIONS. I WILL BE AVAILABLE TO ANSWER ANY QUESTIONS THAT YOU MAY HAVE.

## MAINTENANCE CONTRACT

DEPOT LEVEL

TOTAL MILITARY DEPOT MAINTENANCE

MILITARY CONTROL WITH KOREAN CIVILIAN EMPLOYEES

KOREAN CIVILIAN CONTRACT DEPOT MAINTENANCE

THIRD-PARTY (NON-KOREAN) CIVILIAN CONTRACT DEPOT MAINTENANCE

## DEPOT MAINTENANCE REQUIREMENTS

- SKILLED MAINTENANCE PERSONNEL
- WELL EQUIPPED DEPOT FACILITY (TOOLS & REPAIR PARTS)

## TOTAL MILITARY DEPOT MAINTENANCE

## DISADVANTAGE

**ADVANTAGE** 

## LARGE PERSONNEL TRAINING REQUIREMENTS

- MUST FIND OR BUILD A DEPOT
   FACILITY
- MUST BUY OR MAKE TOOLS
   AND REPAIR PARTS
- INITIAL COSTS VERY HIGH

CAN QUICKLY CHANGE DUTPUT LEVEL

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# MILITARY CONTROL WITH KOREAN CIVILIAN EMPLOYEES

## ADVANTAGE

## DISADVANTAGE

• MAKES USE OF ALREADY TRAINED BEPOT MAINTENANCE PERSONNEL

• MUST FIND OR BUILD A FACILITY

• MUST BUY OR MAKE TOOLS & REPAIR PARTS

• EXPERIENCE WITH OH-23 & 0-1

也也是一种种的"阿姆斯",是是他们的"阿斯斯",他们们是一种的"阿斯斯",他们们是一种的"阿斯斯",他们们们是一种的"阿斯斯",他们们们是一种的"阿斯斯",但是

# KOREAN CIVILIAN CONTRACT DEPOT MAINTENANCE

## ADVANTAGE

DISADVANTAGE

- MAKES USE OF KAL FACILITY
- DECREASES ROKA PERSONNEL
   TRAINING REQUIREMENTS
- REDYCES ROKA COST FOR FACILITIES, TOOLS & REPAIR PARTS

OUTPUT LEVEL NOT EASILY CHANGED

## KOREAN-CIVILIAN CONTRACT DEPOT MAINTENANCE KOK

**ADVANTAGE** 

DISADVANTAGE

• REQUIRES STATE DEPARTMENT
AND CONTRACT COORDINATION

• FASTER THAN TRAINING ROKA PERSONNEL

• REDUCES ROKA REQUIREMENTS FOR FACILITY, TOOLS & REPAIR PARTS

DECREASES ROKA PERSONNEL TRAINING REQUIREMENTS

• OUTPUT LEVEL NOT EASILY CHANGED

## DEPOT MAINTENANCE ALTERNATIVES

- TOTAL MILITARY DEPOT MAINTENANCE
- MILITARY CONTROL WITH KOREAN CIVILIAN EMPLOYEES
- KOREAN GIVILIAN CONTRACT MAINTENANCE
- NON-KOREAN CIVILIAN CONTRACT MAINTENANCE

SLIDE 1 THE LAST ISSUE WE WILL ADDRESS BUT CERTAINLY NOT THE

LEAST IMPORTANT IS "AIRSPACE MANAGEMENT." AIRSPACE MANAGEMENT
IS DEFINED AS THE COORDINATION, INTEGRATION AND REGULATION
OF THE USE OF AIRSPACE OF DEFINED DIMENSIONS. IT IS NOT
INTENDED TO PLACE UNNECESSARY RESTRICTIONS ON THE AIRSPACE
USERS, BUT RATHER TO FURTHER THE MAXIMUM EFFECTIVENESS OF
COMBAT OPERATIONS.

## (TRANSLATION)

THE AIRSPACE IMMEDIATELY OVER THE OPERATIONAL AREA IS

THE RESPONSIBILITY OF THE GROUND FORCES COMMANDER. WHETHER

THE JOINT FORCES COMMANDER OR MANEUVER BATTALION COMMANDER,

EACH IS RESPONSIBLE FOR AIRSPACE MANAGEMENT WITHIN HIS SECTOR.

AT HIGHER LEVELS (DIVISION, CORPS, ARMY, ETC.) AIRSPACE

MANAGEMENT IMPLEMENTATION IS DELEGATED TO SPECIAL STAFF

COORDINATION, INTEGRATION AND REGULATION OF AIRSPACE EFFECTING THEIR AREA OF RESPONSIBILITY.

## (TRANSLATION)

THE SENIOR AIR FORCE OFFICER IS RESPONSIBLE FOR SLIDE 3 AIRSPACE COORDINATION AS DIRECTED BY THE JOINT TASK FORCE COMMANDER. THIS AIR FORCE OFFICER OR AIR FORCES COMPONENT COMMANDER, HAS 3 JOBS THAT ALL RELATE TO AIRSPACE MANAGEMENT. FIRST, HE IS THE COMMANDER OF THE AIR FORCE FORCES, SECONDLY, THE AIRSPACE CONTROL AUTHORITY AND THIRD, THE AREA AIR DEFENSE COMMANDER. HE MUST BE RESPONSIVE TO THE NEEDS OF THE GROUND FORCES IN ORDER NOT TO RESTRICT SUPPORT OF COMBAT OPERATIONS. AS A GENERAL RULE, THE CLOSER YOU GET TO THE FORWARD EDGE OF THE BATTLE AREA (FEBA), THE GREATER THE NEED FOR FLEXIBILITY TO SUPPORT COMBAT OPERATIONS.

## (TRANSLATION)

SLIDE 4 WHEN WE FIRST LOOK AT THIS SLIDE, WE NOTICE THE LARGE

AMOUNT OF COORDINATION INVOLVED. IT SEEMS OVERWHELMING AND

CONFUSING. IN ACTUALITY, MANY FUNCTIONS ARE HANDLED

SIMULTANEOUSLY. TO FURTHER EXAMINE THIS DIAGRAM, LET US

BEGIN BY LOOKING AT THE AIR FORCE ORGANIZATION.

## (TRANSLATION)

IN THE AIR FORCE TACTICAL AIR CONTROL CENTER THERE

IS AN AIRSPACE CONTROL CENTER. IT IS IMPORTANT TO NOTE

THAT THE CENTER CONTAINS AN AIRSPACE MANAGEMENT LIAISON

SECTION OR AMLS AS SHOWN ON THIS SLIDE. A PORTION OF THIS

SECTION IS MANNED BY ARMY PERSONNEL, WHO COORDINATE AIRSPACE

UTILIZATION. A SIMILAR LIAISON SECTION IS A PART OF THE

CONTROL AND REPORTING CENTER.

## (TRANSLATION)

SLIDE 6 THE FLIGHT OPERATIONS CENTER IS ACTUALLY AN ARMY

ELEMENT BUT DIRECTLY LINKED TO THE CONTROL AND REPORTING

CENTER. OFTEN THE ARMY'S FLIGHT OPERATIONS CENTER IS CO-LOCATED

WITH THE AIR FORCE'S CONTROL AND REPORTING CENTER. ALTHOUGH

THE TACTICAL SITUATION MAY PREVENT IT, CO-LOCATION IS

DESIRABLE DUE TO THE LARGE AMOUNT OF COORDINATION NECESSARY

BETWEEN THE ELEMENTS. THIS LINK PROVIDES ALMOST INSTANT

INFORMATION TO THE ARMY'S AIRSPACE CONTROLLING AGENCY.

AND DIVISION TACTICAL OPERATIONS CENTERS HAVE AIRSPACE

MANAGEMENT ELEMENTS. THESE ARE THE SPECIAL STAFF ELEMENTS WE REFERRED TO EARLIER. THEY ADVISE THE GROUND COMMANDER ON AIRSPACE MANAGEMENT AND IMPLEMENT THE COMMANDERS POLICIES.

### (TRANSLATION)

SLIDE 8 ALSO INTEGRATED INTO THIS STRUCTURE ARE THE OTHER

ELEMENTS REQUIRING COORDINATION: THE AIR DEFENSE AND ARTILLERY UNITS. ARMY AND AIR FORCE AIRCRAFT ARE CONTROLLED BY THEIR RESPECTIVE ELEMENTS. THE ARMY USES A FLIGHT OPERATIONS CENTER OR FLIGHT COORDINATING CENTER AND THE AIR FORCE USES THE TACTICAL AIR CONTROL PARTY, FORWARD AIR CONTROLLERS OR

## (TRANSLATION)

THE CONTROL AND REPORTING POSTS.

WITH THIS BRIEF OVERVIEW WE HAVE EXAMINED THE INTER-

RELATIONSHIPS INVOLVED IN AIRSPACE MANAGEMENT. SINCE AIRSPACE

MANAGEMENT IS THE MANEUVER UNIT COMMANDER'S RESPONSIBILITY,
LET'S TAKE A CLOSER LOOK AT HIS ACTIVITIES.

## (TRANSLATION)

SLIDE 9

BASED ON THE GENERAL TRAFFIC OF AIRCRAFT AND COMBAT

ACTIVITIES, THE CORPS AIRSPACE CAN BE DIVIDED INTO TWO AREAS -
THE REAR AREA AND THE TACTICAL OPERATIONS AREA. THE BOUNDARY

BETWEEN THESE AREAS IS NORMALLY THE REAR BOUNDARY OF THE

FORWARD DIVISIONS. FORWARD OF THIS BOUNDARY IS THE TACTICAL

OPERATIONS AREA.

## (TRANSLATION)

SLIDE 10 BECAUSE OF THE CLOSE PROXIMITY TO ENEMY AIR DEFENSES,

THE USEABLE AIRSPACE IS SEVERELY RESTRICTED IN THIS AREA.

THIS MEANS THAT MORE AIRCRAFT WILL HAVE TO OPERATE IN A SMALLER AREA. TO EFFECTIVELY SUPPORT COMBAT OPERATIONS, AIRCRAFT MUST BE ALLOWED A GREAT DEAL OF FLEXIBILITY IN THE TACTICAL OPERATIONS AREA. FOR THIS REASON, MOST OF THE AIRSPACE MANAGEMENT CONTROLS IN THIS AREA ARE DESIGNED TO INFORM AIRSPACE USERS OF SIMULTANEOUS OPERATIONS. SOME OF THE MEANS TO ACCOMPLISH THIS COORDINATION ARE BY USE OF:

## SLIDE 11

COORDINATING ALTITUDES, MINIMUM RISK ROUTES, HIGH DENSITY

AIRSPACE CONTROL ZONES, AIRFIELD TERMINAL CONTROL ZONES AND

STANDARD-USE ARMY AIRCRAFT ROUTES. WE WILL NOW TAKE A LOOK

AT EACH OF THESE.

SLIDE 12 THE COORDINATING ALTITUDE IS A MEANS TO SEPARATE AIRCRAFT BY NORMAL MISSION PROFILES. THOSE AIRCRAFT REQUIRED TO FLY CLOSE TO THE EARTH HAVE A COORDINATING ALTITUDE ABOVE THEM. AIRCRAFT NORMALLY REQUIRED TO FLY AT HIGHER ALTITUDES HAVE A COORDINATING ALTITUDE BELOW THEM. THIS DOES NOT MEAN THAT AN AIRCRAFT CANNOT PASS THROUGH THIS ALTITUDE, BUT SIMPLY THAT HE SHOULD COORDINATE WHEN DOING SO. BY COORDINATING PRIOR TO PASSING THROUGH THIS ALTITUDE, AIRCRAFT DECREASE THE LIKELINESS OF A MID-AIR COLLISION. THE NECESSARY COORDINATION MAY BE ACCOMPLISHED BY A SIMPLE RADIO CALL. AIRCRAFT PASSING THROUGH THE COORDINATING ALTITUDE SHOULD ESTABLISH RADIO CONTACT WITH

THE AGENCY WHO CONTROLS THE AIRSPACE PENETRATED. THIS

ALLOWS THE AIRSPACE USERS AND CONTROLLERS TO BE INFORMED

OF THE AIRCRAFT'S PRESENCE.

## (TRANSLATION)

SLIDE 14

A MINIMUM RISK ROUTE IS DESIGNED TO FACILITATE AIR FORCE
HIGHSPEED AIRCRAFT MOVEMENTS, AT LOW ALTITUDES, THROUGH THE
TACTICAL OPERATIONS AREA. THEY ARE COORDINATED THROUGH ARMY
AND AIR FORCE CHANNELS PRIOR TO BEING ESTABLISHED. THESE
ROUTES SERVE TO ALERT ARMY AIRCRAFT, MANEUVER UNITS, AIR
DEFENSE UNITS AND ARTILLERY UNITS OF THE NORMAL LOW ALTITUDE
ROUTES OF HIGH-SPEED JETS. THIS ALLOWS ARMY UNITS TO
AMTICIPATE AIR FORCE MOVEMENTS. IT DOES NOT RESTRICT ARMY
AIRCRAFT FROM USING THIS AIRSPACE.

## (TRANSLATION)

SLIDE 15 HIGH DENSITY AIRSPACE CONTROL ZONES ARE TEMPORARY

CONTROL ZONES. THEY ARE REQUESTED BY THE MANEUVER COMMANDER

TO CONTROL LARGE VOLUMES OF AIR TRAFFIC DURING OPERATIONS. .

THIS CONTROL ZONE PERMITS MAXIMUM FREEDOM OF OPERATIONS

WHILE MINIMIZING INTERFERENCE BETWEEN FORCES. ONLY THOSE

AIRSPACE USERS IN DIRECT SUPPORT OF THE COMBAT OPERATION

ARE PERMITTED IN THE HIGH DENSITY AIRSPACE CONTROL ZONE.

ALL AIRSPACE USE IS CLOSELY COORDINATED WITHIN THE ZONE BY

THE MANEUVER UNIT. BECAUSE OF ITS RESTRICTIVE NATURE, THE

HIGH DENSITY AIRSPACE CONTROL ZONE WILL REMAIN IN EFFECT

ONLY AS LONG AS NECESSARY.

### (TRANSLATION)

IN NATURE. THEY ARE ALSO REQUESTED BY THE MANEUVER COMMANDER.

WHEN COORDINATED THROUGH CHANNELS THEY ARE ESTABLISHED AROUND

AIRFIELDS. THESE HELP TO CONTROL AND ROUTE TRAFFIC IN AN

AREA THAT HAS A REASONABLY HIGH VOLUME OF AIR TRAFFIC ON A CONTINUOUS BASIS. NORMALLY THE AIRFIELD HAS A TOWER TO

FACILITATE AIRCRAFT MOVEMENTS.

### (TRANSLATION)

SLIDE 17 STANDARD-USE ARMY AIRCRAFT ROUTES ARE GENERALLY USED IN

THE REAR AREA. THEY USUALLY BEGIN OR TERMINATE INSIDE THE

TACTICAL OPERATIONS AREA. THESE ROUTES HELP TO CONTROL

AIRCRAFT MOVEMENTS BY SEPARATING TRAFFIC TRAVELING IN OPPOSITE

DIRECTIONS. THESE ROUTES ARE MORE RESTRICTIVE AND STRUCTURED

BECAUSE THEY ARE FURTHER FROM THE AREA OF COMBAT OPERATIONS.

### (TRANSLATION)

NOW THAT WE ARE THE FAMILIAR WITH SOME OF THE CONTROL

MEASURES AVAILABLE TO THE TACTICAL COMMANDER, LET US FOLLOW

### A NORMAL COMBAT OPERATION.

### (TRANSLATION)

THIS INFANTRY BATTALION IS ESTABLISHED ALONG THE FEBA

IN A DEFENSIVE POSITION. FOR MOST OF THE DAY, ENEMY

INFANTRY TROOPS HAVE BEEN ATTEMPTING TO PENETRATE THE

DEFENSIVE FRONT.

### (TRANSLATION)

INFANTRY ATTACK AND SUCCEEDED IN PENETRATING THE DEFENSIVE

LINES. THE BATTALION COMMANDER HAS REQUESTED THROUGH THE

REGIMENT TO DIVISION FOR ATTACK HELICOPTER SUPPORT. AT THE

SAME TIME HE HAS REQUESTED FROM THE ATTACHED TACTICAL AIR

CONTROL PARTY (TACP) AN IMMEDIATE AIRSTRIKE. BOTH REQUESTS

HAVE BEEN APPROVED AND NOW THE BATTALION SETS OUT TO COORDINATE THE AIRSPACE MANAGEMENT.

### (TRANSLATION)

THE AIR FORCE TACTICAL AIR CONTROL PARTY BEGINS HIS

COORDINATION BY OBTAINING AN UPDATE BRIEFING FROM THE

ARTILLERY FIRE SUPPORT COORDINATOR. THIS PROVIDES

CUORDINATION OF THE AIRSPACE BETWEEN THE AIR FORCE AND

THE ARTILLERY. THROUGH COMMAND CHANNELS THE TACP CAN

COORDINATE USE OF THE AIRSPACE BY BOTH ARMY AND AIR FORCE

AIRCRAFT.

### (TRANSLATION)

SLIDE 20 IN OUR TACTICAL SITUATION THERE IS ALREADY A MINIMUM.

RISK ROUTE ESTABLISHED PASSING THROUGH THE BATTALION SECTOR.

THIS CAN SERVE AS A CONTROL MEASURE FOR AIR FORCE JETS

TO EASILY MOVE TO THE AREA OF COMBAT OPERATIONS.

### (TRANSLATION)

THE ATTACK HELICOPTER COMPANY SENDS A LIAISON OFFICER

TO THE BATTALION CP TO COORDINATE THE USE OF ATTACK

HELICOPTER SUPPORT. HE RECEIVES A BRIEFING FROM THE

TACTICAL AIR CONTROL PARTY AND ARTILLERY FIRE SUPPORT

OFFICER TO COORDINATE THE USE OF THE BATTALION'S AIRSPACE.

TOGETHER THEY ESTABLISH MEASURES TO PROVIDE FOR THE

SIMULTANEOUS USE OF THE AIRSPACE.

### (TRANSLATION)

SLIDE 22 THE DIVISION'S FLIGHT COORDINATION CENTER INFORMS THE

CORPS FLIGHT OPERATIONS CENTER AND THE AIR FORCE CONTROL

AND REPORTING CENTER OF THE ATTACK HELICOPTER OPERATIONS.

AT THE SAME TIME, THE AIR DEFENSE NET IS ALERTED BY BOTH
THE DIVISION AND AIR FORCE OF THE INCREASED AIRCRAFT
OPERATIONS. THIS WILL PRECLUDE AIR DEFENSE FIRINGS ON
FRIENDLY AIRCRAFT.

### (TRANSLATION)

BECAUSE OF THE EFFECTIVE AIRSPACE MANAGEMENT THAT WAS

ACCOMPLISHED, THE AIR FORCE JETS, ARMY ATTACK HELICOPTERS

AND ARTILLERY PROVIDE RESPONSIVE SUPPORT TO THE GROUND

FORCES. THE PENETRATION IS HALTED BY IMPOSING HEAVY LOSSES

ON THE ENEMY EQUIPMENT AND PERSONNEL.

### (TRANSLATION)

MEANWHILE, BECAUSE OF THE HEAVY LOSSES TO FRIENDLY
PERSONNEL, THE DIVISION COMMANDER HAS REQUESTED ADDITIONAL

SUPPORT FROM THE CORPS COMMANDER. THE CORPS COMMANDER

COMMITS A PORTION OF THE CORPS RESERVE TO REINFORCE THE

FRONT LINE DIVISION.

### (TRANSLATION)

SLIDE 24 IN ORDER TO QUICKLY REINFORCE THE UNITS IN CONTACT, THE CORPS COMMANDER DECIDES TO USE ARMY HELICOPTERS TO MOVE THE RESERVES INTO POSITION. THE CORPS AND DIVISION AIRSPACE MANAGEMENT ELEMENTS COORDINATE WITH THE AVIATION BATTALION COMMANDER ON THE MOVEMENT OF THE TROOPS. THEY PLAN THE ROUTES, LANDING ZONES, COORDINATE WITH THE AIR DEFENSE UNITS, AND THE GROUND FORCES. THROUGH THE FLIGHT OPERATIONS CENTER AND FLIGHT COORDINATION CENTER, THE AIR FORCE IS INFORMED OF THE ARMY AIRCRAFT ACTIVITIES.

### (TRANSLATION)

SLIDE 25 A PORTION OF THE REINFORCEMENTS ARE ALLOCATED TO THE

BATTALION IN OUR EXAMPLE. WITH THE FRESH PERSONNEL AND

EQUIPMENT, THE BATTALION RESTORES THE FEBA TO THE ORIGINAL LOCATION.

ARMY AVIATION IS AN IMPORTANT PART OF THE COMBINED ARMS
TEAM. THROUGH EFFECTIVE AIRSPACE MANAGEMENT, THE MANEUVER
COMMANDER CAN MAXIMIZE HIS AVIATION SUPPORT OF THE COMBAT
OPERATION.

### · (TRANSLATION)

SLIDE 26 THIS EXAMPLE DOES NOT USE ALL THE CONTROLLING MEASURES

WE DISCUSSED BUT IT WILL GIVE YOU A FEELING FOR THE

COORDINATION NECESSARY. EFFECTIVE AIRSPACE MANAGEMENT CAN

MEAN THAT THE PROPER SUPPORT IS AVAILABLE WHEN NEEDED. IF

AIRSPACE MANAGEMENT IS NOT EFFECTIVE IT CAN MEAN UNNECESSARY

### FRIENDLY LOSSES DUE TO INTERERENCE, MID-AIR COLLISIONS

AND DUPLICATION OF TARGET SERVICING.

### (TRANSLATION)

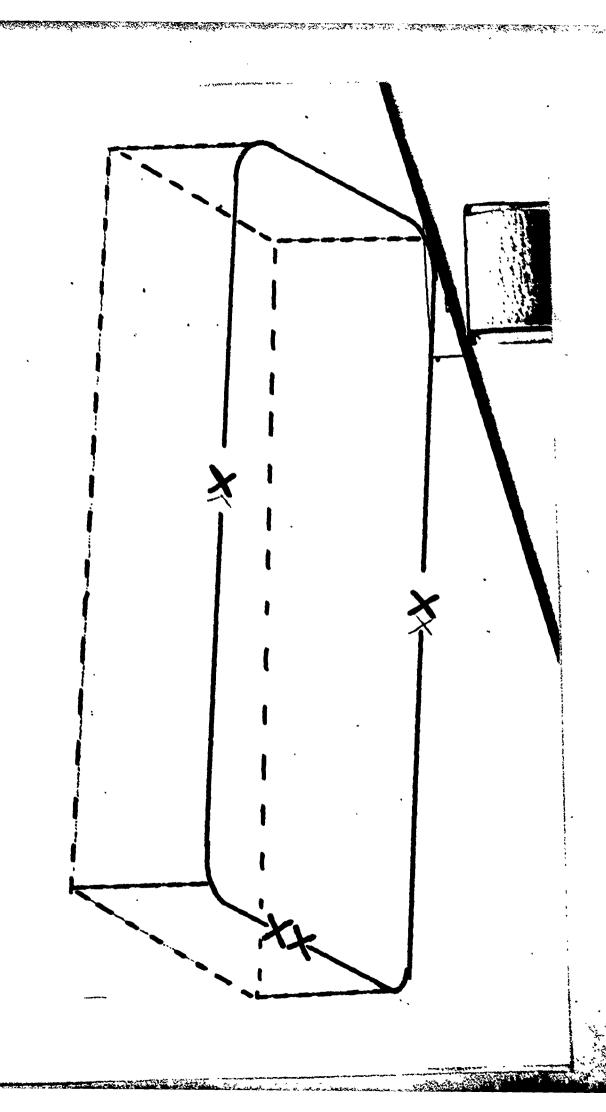
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PRESENTATION AND ALLOW YOU TO FORMULATE CONCLUSIONS AND

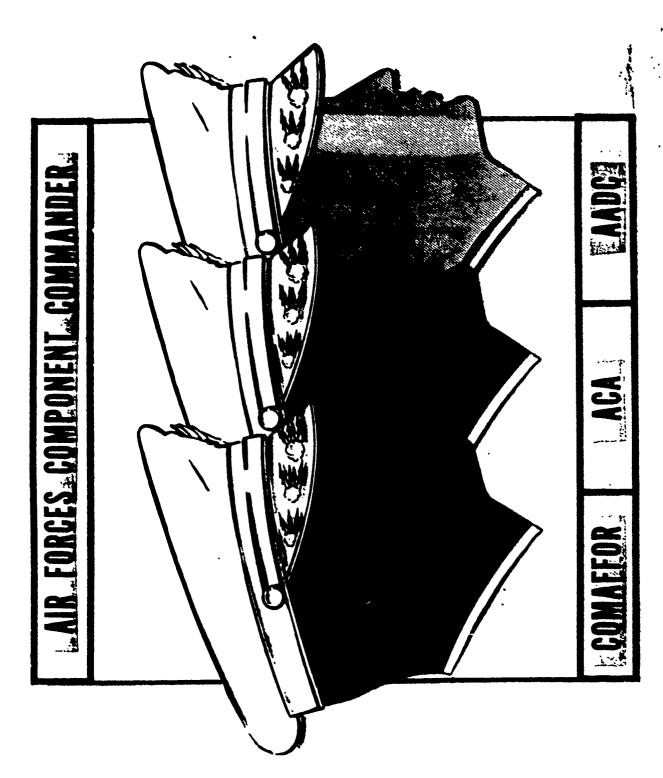
RECOMMENDATIONS.

(TRANSLATION)

### MANAGEMENT MANAGEMENT



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的,这个人,我们是一个人,我们是一个人,我们们是一个人,我们们是一个人,我们们是一个人,我们们是一个人,我们们的一个人,我们们的一个人,我们们们的一个人,我们们

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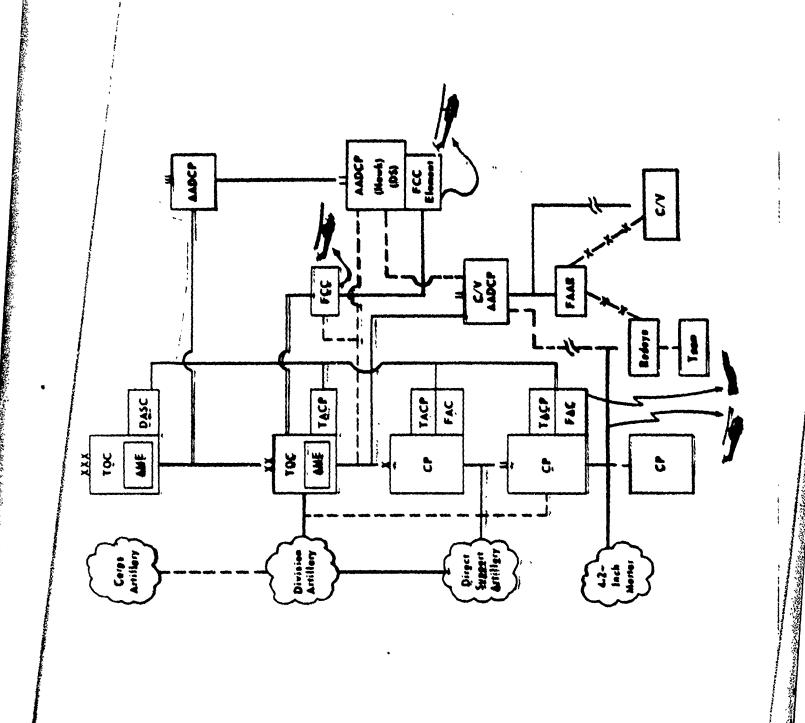
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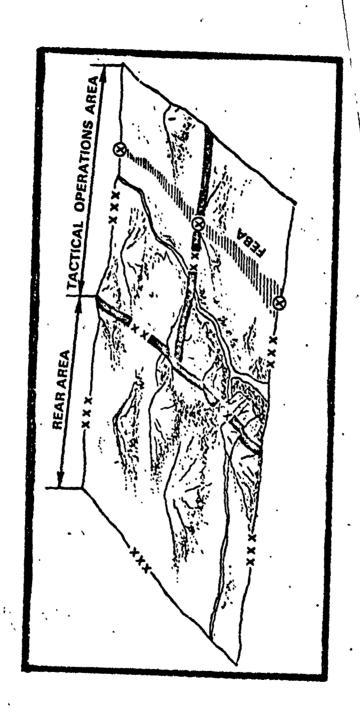
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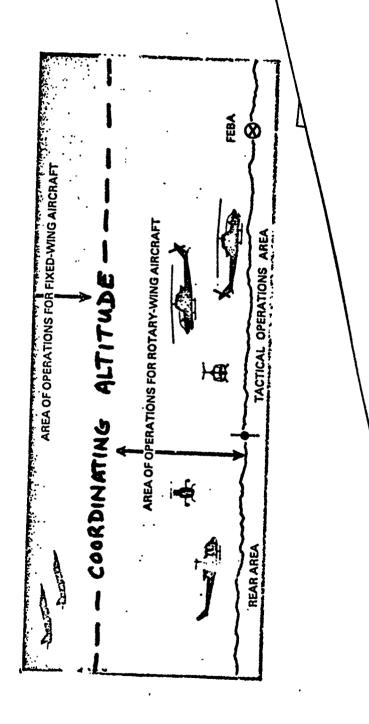
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- COORDINATING ALTITUDES
- MINIMUM RISK ROUTES
- HIGH DENSITY AIRSPACE CONTROL ZONES
- AIRFIELD TERMINAL CONTROL ZONES
- STANDARD-USE ARMY AIRCRAFT ROUTES

# ALTITUDE COORDINATING



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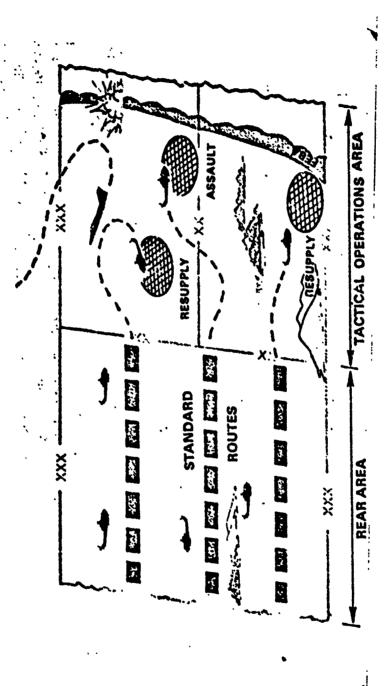


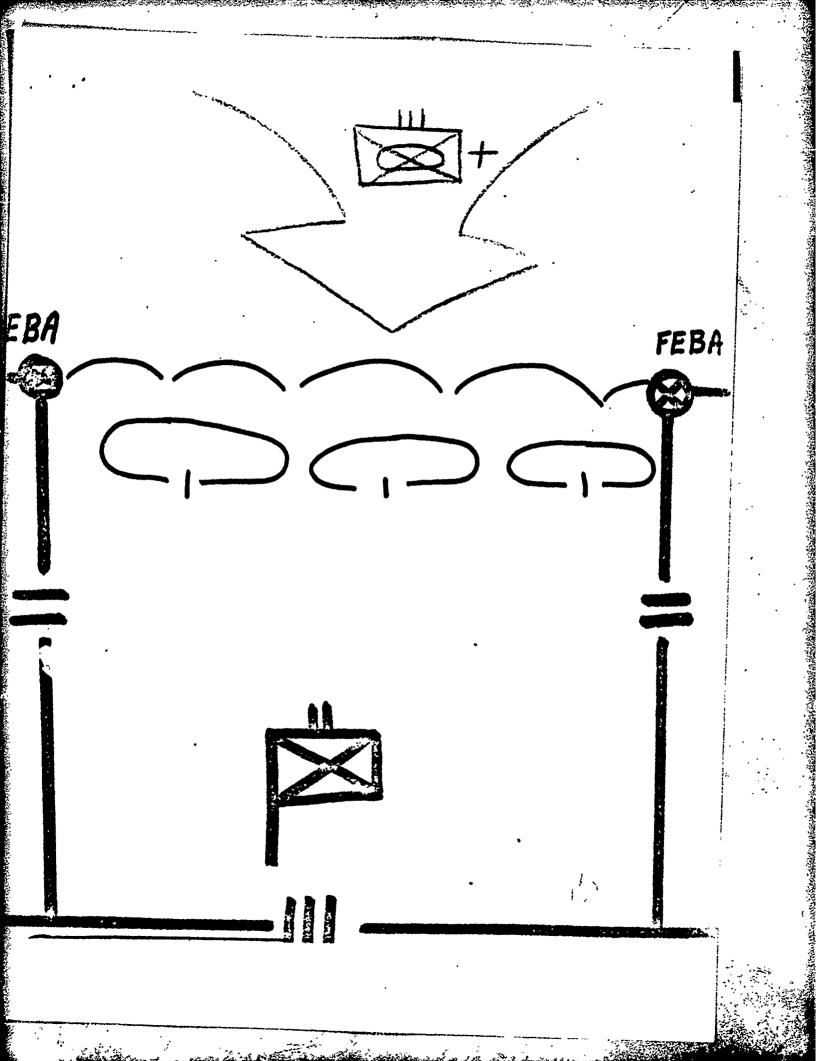
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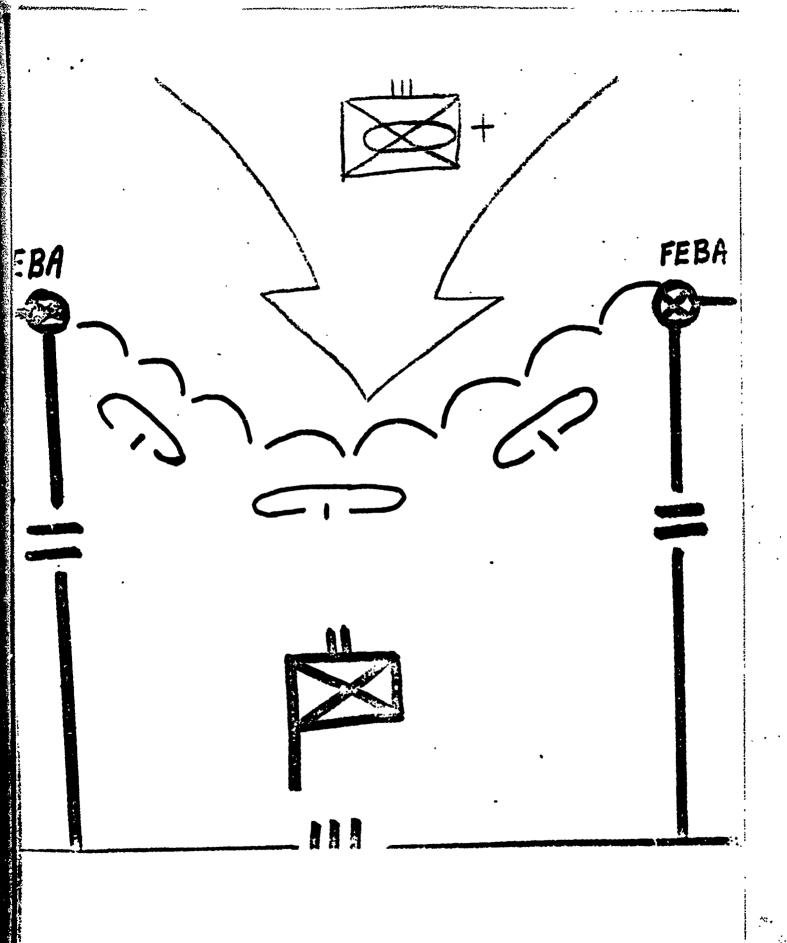
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# AIRFIELD TERMINAL CONTROL ZONES

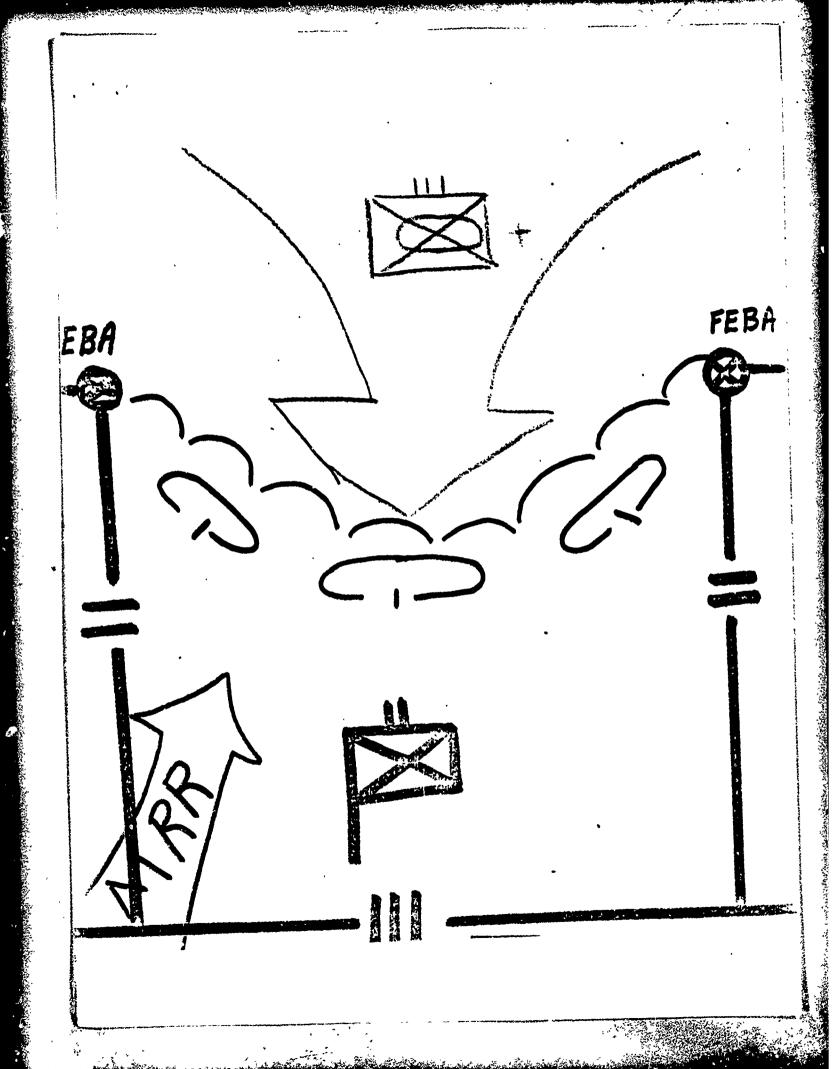
# STANDARD-USE ARMY AIRCRAFT ROUTES

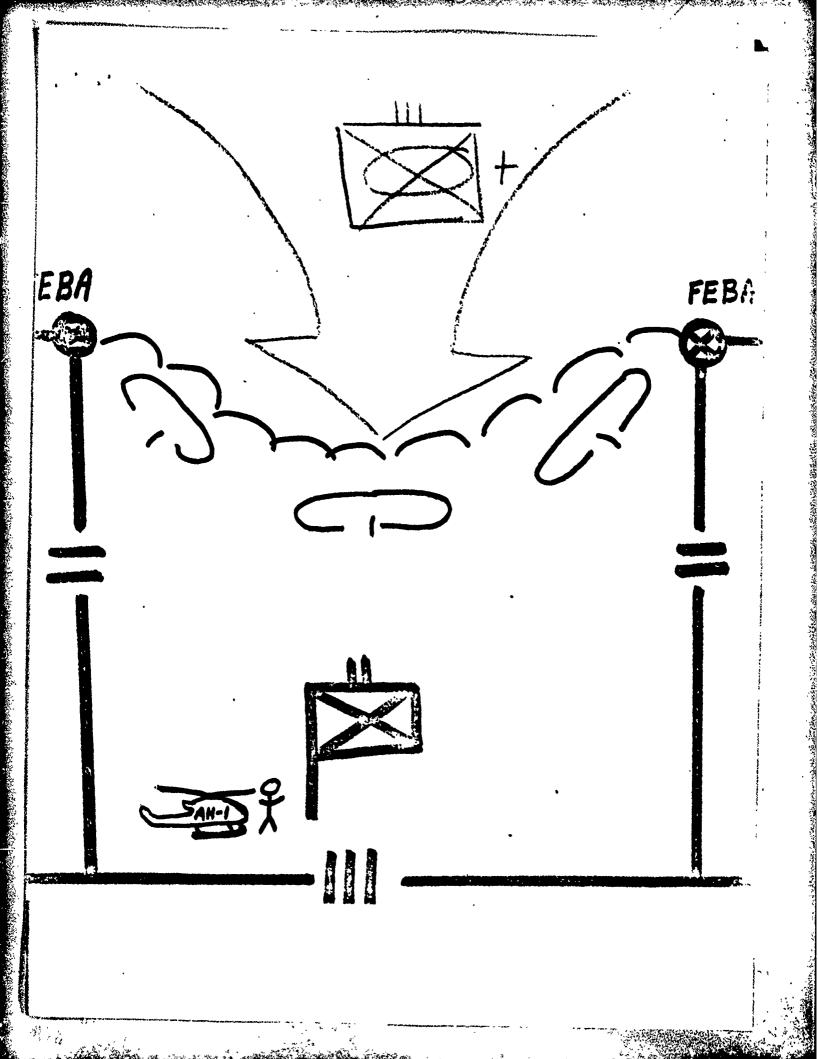


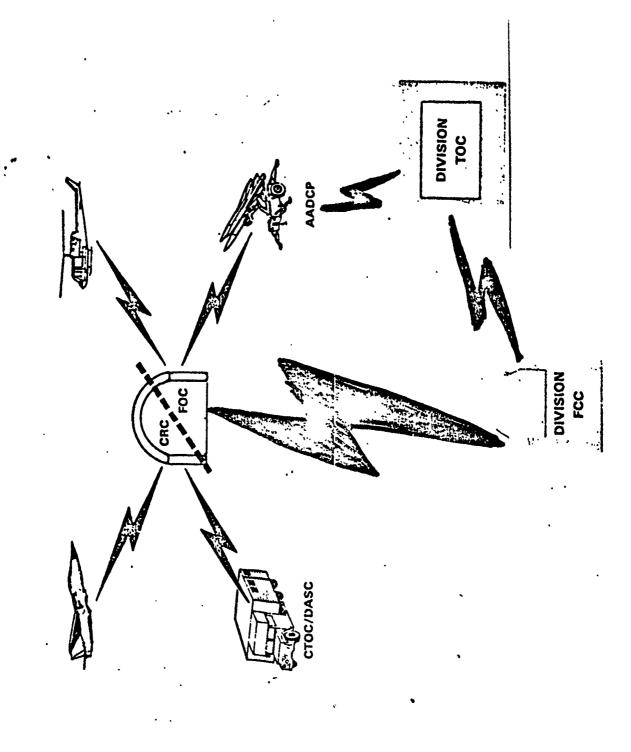


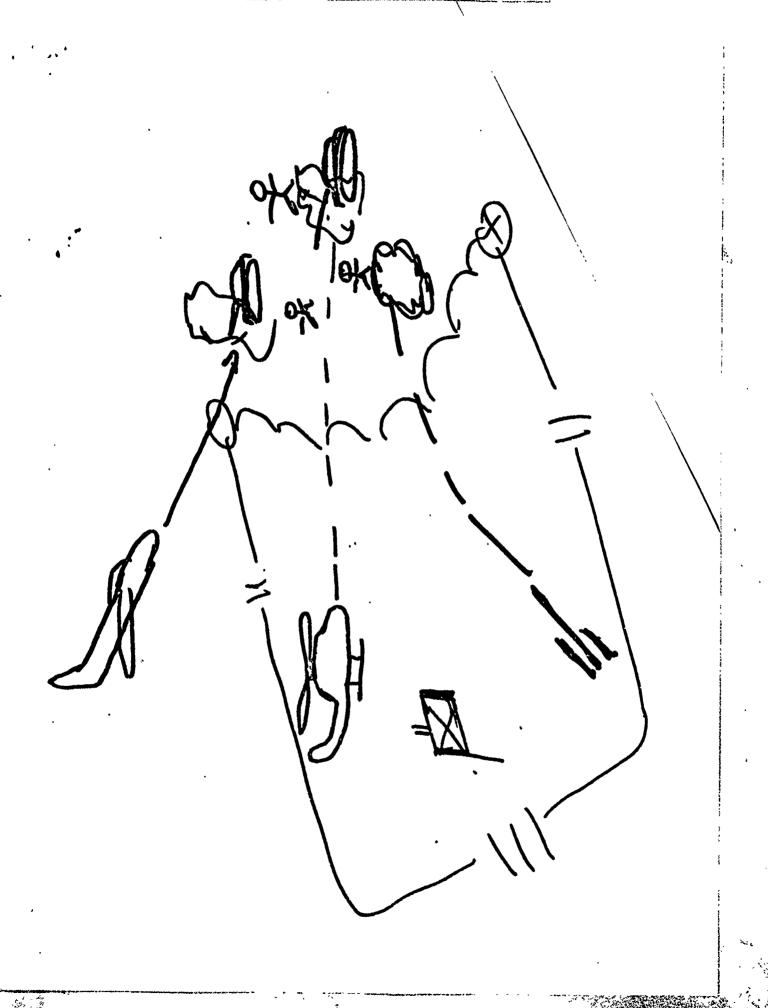


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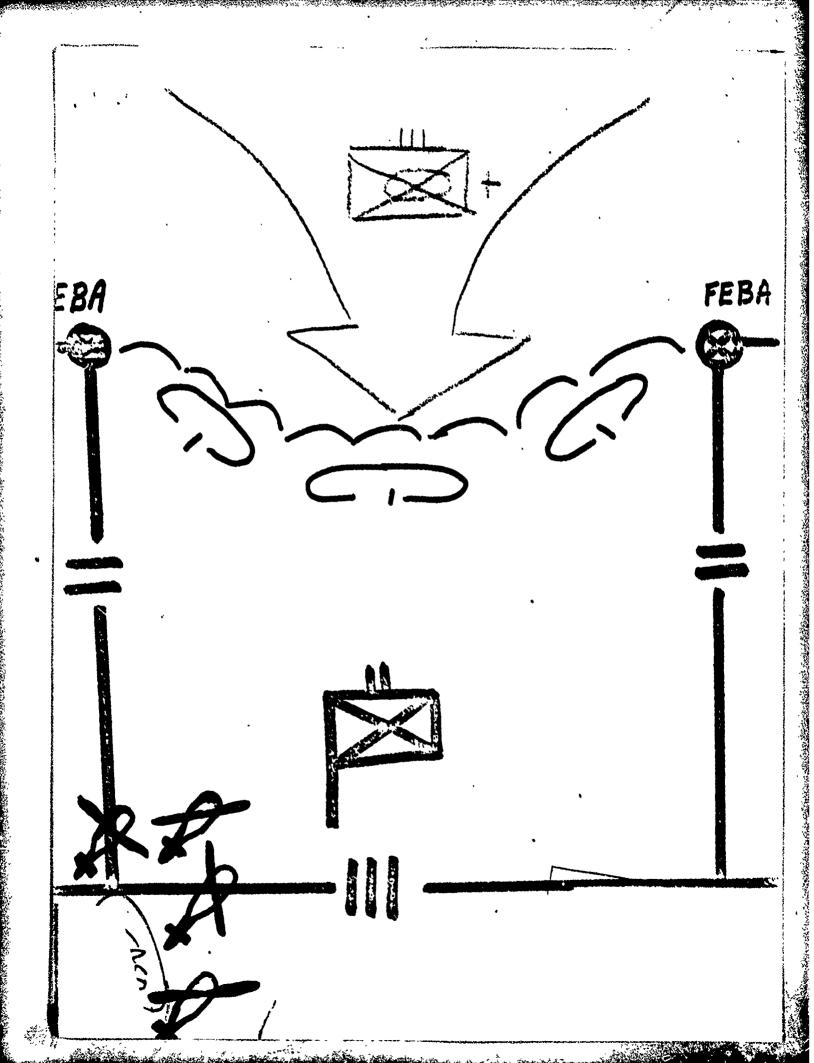


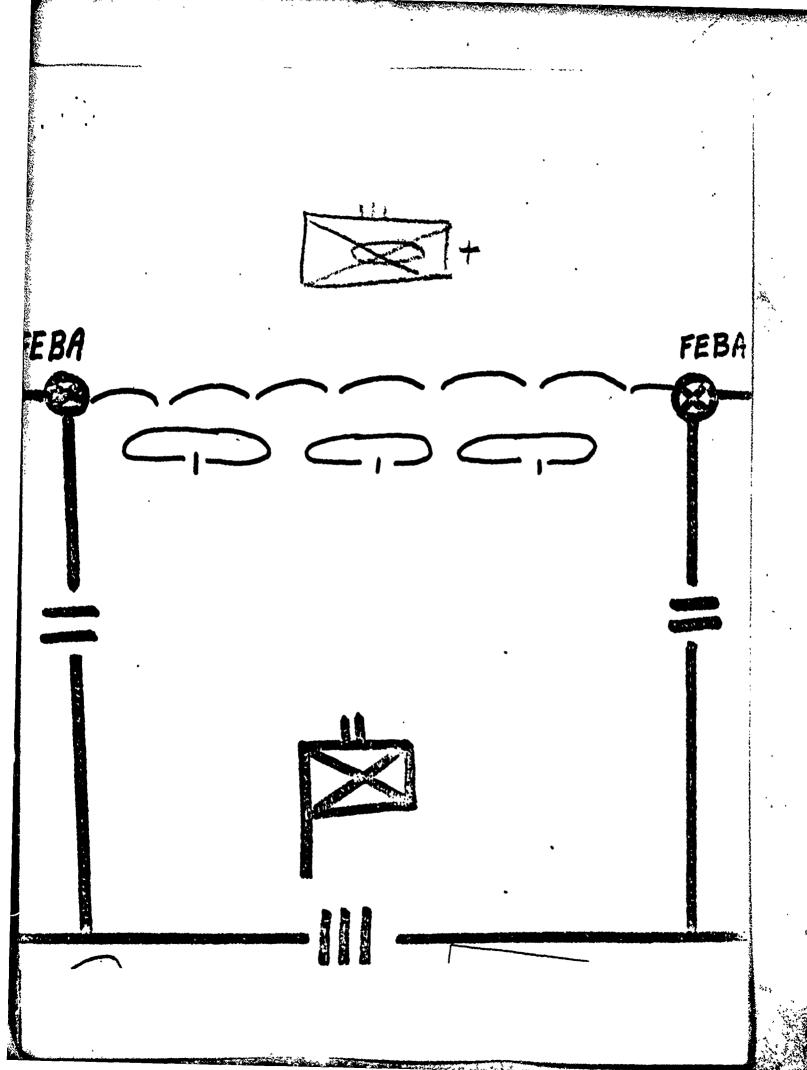




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## MARSPACE MARSEMENT

### LATERAL COORDINATION SCRIPT

I. ATTENTION: I AM GOING TO TALK TO YOU THIS MORNING ABOUT

POSSIBLY THE MOST CRITICAL AREA OF CONCERN TO ANY ARMY.

IT IS NOT AMMUNITION NOR TACTICS NOR EVEN THE ENEMY. IT

APPEARS TO BE SO SMALL IT IS OFTEN OVERLOOKED, YET IT

CAN STOP AN ENTIRE ARMY. WHAT IS THIS POWERFUL FORCE?

### (TRANSLATION)

VGT 1 IT IS THE ART OF COORDINATION. WHY IS IT SO POWERFUL?

LET ME ANSWER THAT WITH AN OLD, OLD STORY.

### (TRANSLATION)

II. NEED: ONCE UPON A TIME THERE WAS A MAN WHO HAD SEVEN SONS.

VGT 2 THESE BROTHERS DID NOT TALK TO EACH OTHER VERY OFTEN.

WHEN THEY DID IT WAS A QUARREL OR BAD GOSSIP ABOUT

ANOTHER BROTHER. THE WISE FATHER WAS VERY UPSET. SO,

ONE DAY HE CALLED HIS SONS TOGETHER. HE GAVE EACH OF HIS SONS A STICK. THEN HE TOLD THEM TO TRY TO BREAK THEIR STICKS.

### (TRANSLATION)

GAVE EACH OF HIS SONS ANOTHER STICK. THIS TIME HE
GAVE THE ELDEST A LENGTH OF CORD ALSO. THE FATHER
TOLD HIS SONS TO BUNDLE THEIR STICKS AND TIE

VGT 4

THEM TIGHT WITH THE CORD. THEN HE TOLD THEM TO TRY
TO BREAK THEIR STICKS AGAIN.

### (TRANSLATION)

THEY EACH TRIED VERY HARD, BUT NONE COULD DO IT. THE WISE OLD FATHER SMILED. HE SAID, "YOU, MY SONS, ARE THESE STICKS. AS LONG AS YOU BICKER AND ARGUE YOU

WILL BE BROKEN. WHEN YOU BIND YOURSELVES TOGETHER,
THIS FAMILY WILL STAND AGAINST ANY FOE."

#### (TRANSLATION)

BICKER AND ARGUE AMONG OURSELVES, BUT THAT WE SO OFTEN

FAIL TO BIND OURSELVES TOGETHER WITH THE CORD OF

COORDINATION. WE ASSUME THAT EVERYONE ELSE IN OUR

ARMY KNOWS "MY PROBLEM." SUCH IS SELDOM COMPLETELY

TRUE.

# (TRANSLATION)

THERE ARE TWO CASES IN WHICH COORDINATION IS CRITICAL TO THE AVIATOR.

OVERLAY 1 ONE IS IN MAINTAINING YOUR AIRCRAFT WHERE YOU MUST COORDINATE FUNDS AVAILABLE AND MAINTENANCE EFFORTS.

# (TRANSLATION)

OVERLAY 2 THE OTHER IS IN EMPLOYING THEM AS A MEMBER OF THE COMBINED ARMS TEAM.

VGT 5

# (TRANSLATION)

TO INSURE THAT AIRCRAFT WILL BE AVAILABLE FOR EMPLOYMENT, COMMUNICATION MUST FLOW FREELY FROM COMPTROLLER TO AVIATOR TO MAINTAINER. THE COMPTROLLER MUST UNDERSTAND THE AVIATOR'S NEED FOR FUEL AND AMMUNITION AS WELL AS THE MAINTAINER'S NEED FOR HIGH COST REPAIR PARTS AND REPLACEMENT AIRCRAFT. THE MAINTAINER MUST KNOW THAT THE COMPTROLLER HAS OTHER MONEY PROBLEMS AND HE MUST UNDERSTAND EACH AVIATOR'S NEED FOR AIRCRAFT AVAILABILITY. THE AVIATOR MUST UNDERSTAND MONEY CONSTRAINTS ON HIS FLYING AND FIGHTING AND HE

MUST BE AWARE OF THE MAINTAINER'S RESPONSIBILITY TO OTHER AVIATION UNITS.

## (TRANSLATION) -

TO ACHIEVE ALL THIS UNDERSTANDING, THESE THREE PEOPLE

(AT ANY LEVEL) MUST COMMUNICATE AND COORDINATE.

SENDING A FORMAL REQUEST IS A NECESSARY INGREDIENT,

BUT IS NOT IN ITSELF COORDINATION.

#### (TRANSLATION)

VGT 6

THE SECOND CRITICAL AREA FOR COORDINATION SKILLS IS

EMPLOYMENT OF THE COMBINED ARMS TEAM. HERE, AGAIN, WE

ALL TEND TO RELY HEAVILY ON ASSUMPTION. IN ORDER FOR

A COMBINED EFFORT TO BE EFFECTIVE EACH COMMANDER MUST

UNDERSTAND ALL THE OTHER COMMANDERS' MISSIONS,

CAPABILITIES, AND LIMITATIONS. ONLY THROUGH

APPLICATION OF COORDINATION SKILLS CAN SUCH UNDERSTANDING BE DEVELOPED.

#### (TRANSLATION)

WE HAVE A SHORT EXERCISE TO HELP US SEE SOME OF THE DIFFICULTIES THAT CAN BE ENCOUNTERED WHEN WE TALK TO EACH OTHER. I WILL ASK ONE OF YOU TO STEP FORWARD AND ASSIST ME. THE TASK WILL BE TO DESCRIBE A SIMPLE DRAWING TO THE REST OF THE CLASS. EACH OF YOU SHOULD TRY YOUR BEST TO DRAW EXACTLY WHAT OUR VOLUNTEER DESCRIBES. HE CANNOT SHOW YOU THE DRAWING NOR MAKE ANY GESTURES WITH HIS HANDS. YOU CANNOT ASK HIM ANY QUESTIONS. THIS EXERCISE WILL ONLY TAKE ABOUT FIVE MINUTES. WHEN YOU HAVE ALL FINISHED YOUR DRAWING WE

WILL SHOW YOU THE ORIGINAL. THIS EXERCISE SHOULD NOT EMBARASS ANYONE.

# (TRANSLATION)

WHO WOULD LIKE TO VOLUNTEER?

#### (TRANSLATION)

(ASSIST ONLY AS NECESSARY. BE AS BRIEF AS POSSIBLE. SHOW THEM THE ORIGINAL).

THIS IS WHAT OUR VOLUNTEER WANTED FROM EACH OF
YOU. SOME OF YOU, NO DOUBT, CAME VERY CLOSE; OTHERS
MAY BE NOT SO CLOSE. THE SAME THING HAPPENS EVERYDAY.
WE ASK SOMEONE TO DO SOMETHING FOR US. WHAT WE GET
MAY BE VERY CLOSE TO WHAT WE WANTED OR MAY BE NOT SO
CLOSE. THE PURPOSE OF THIS EXERCISE WAS TO DEMONSTRATE
THAT GOOD COORDINATION USUALLY REQUIRES MORE EFFORT

in and the second of the second of the second secon

THAN MERELY TELLING OTHERS WHAT WE WANT.

# (TRANSLATION)

VGT 7

THIS SLIDE IS A LIST OF THINGS TO THINK ABOUT WHEN TRYING TO COORDINATE. THEY ARE EXPLAINED BRIEFLY IN YOUR DATA BOOKS, SO I WILL NOT TAKE TIME HERE TO DISCUSS THEM.

# (TRANSLATION)

I DO NOT SUGGEST ENDING OR BYPASSING FORMALIZED
CHANNELS AND PROCEDURES. THEY ARE ESSENTIAL. BUT FREE
FLOWING INFORMATION EXCHANGE, BACKED UP BY FORMAL
MEANS, IS THE BASIS OF COORDINATION.

# (TRANSLATION)

VGT 1

IT MAY SEEM TO YOU THAT I AM OVER-EMPHASIZING THIS
POINT. HOWEVER, COORDINATION IS SO CRITICAL TO SUCCESS

THAT I COULD SPEND THE ENTIRE DAY DISCUSSING ITS

VIRTUES. I AM CONFIDENT YOU ARE ALREADY AWARE OF

THE NEED TO DEVELOP THESE SKILLS. I WOULD LIKE VERY

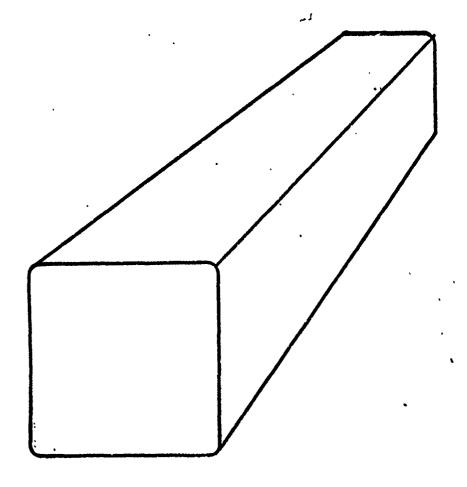
MUCH TO HEAR YOUR IDEAS.

ARE THERE ANY QUESTIONS?

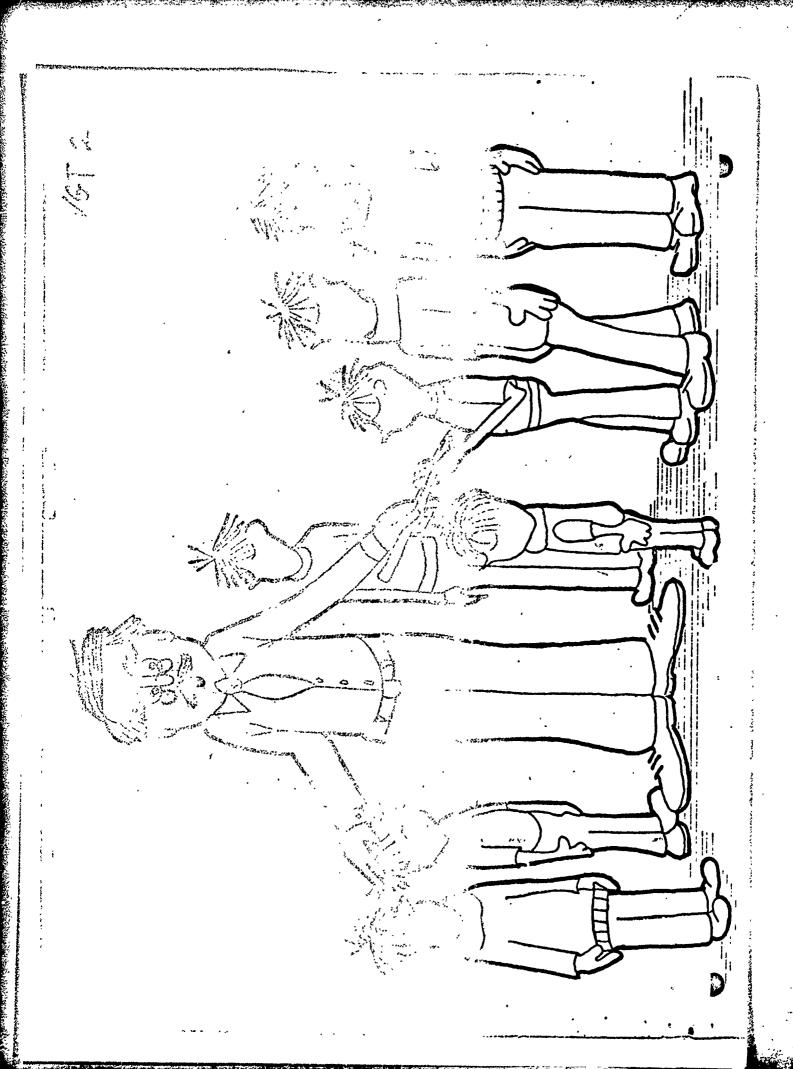
(TRANSLATION)

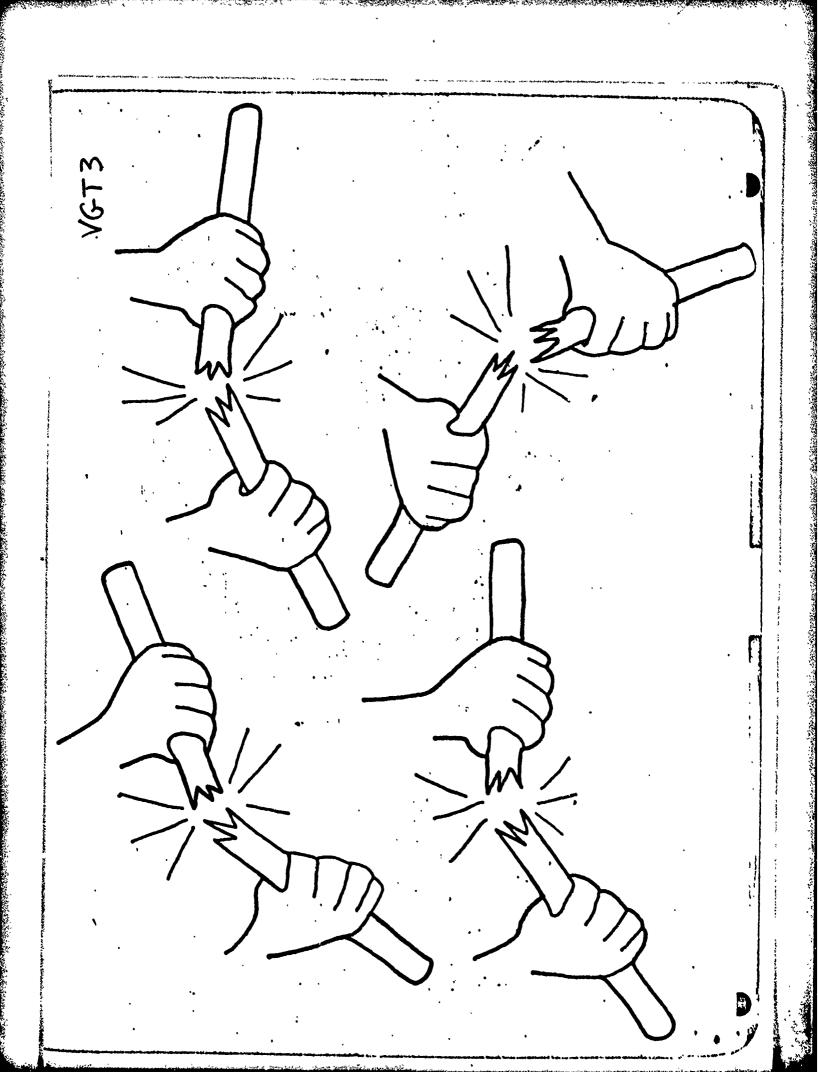
Practical Exercise in support of Lateral Coordination

Have one of the attendees describe the drawing below to the others in attendance. He cannot show them the drawing nor use hand gestures in his description. Each workshop participant should attempt to duplicate the drawing from the description without asking questions. Compare their efforts with the original and point out that similar problems arise when trying to coordinate a mission.



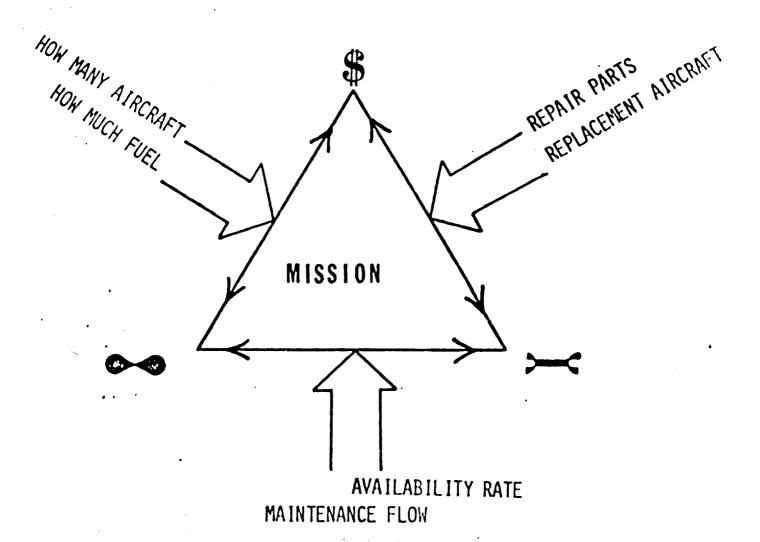






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# DAILY



COORDINATION

VGT 5

VGT.6 YOUNGS IN THE STATE OF THE STAT COORDINATION HOWILLEW LANDS

# FUNDAMENTALS OF COORDINATION

DEAL WITH THE PERSON - NOT THE ORGANIZATION

SOLICIT FEEDBACK

**COOPERATION** 

BE SPECIFIC

CHECK FOR CLARITY

BE CONSTRUCTIVE RATHER THAN CRITICAL

ATTACK THE SITUATION - NOT THE PEOPLE

GOOD	MORNING,	I	AM	F	ROM	
0000		•		•		

" USAAVNC, FT RUCKER, ALABAMA." OUR TOPIC FOR DISCUSSION THIS

TRAINING DEVELOPMENTS IS THE PROCESS WE USE TO DEVELOP

TRAINING WHICH WILL TEACH A MAN HOW TO DO HIS JOB. THIS

SOUNDS VERY SIMPLE, BUT A REVIEW OF PAST ERRORS MADE IN

•

IMPORTANT.

# (TRANSLATION)

TRAINING WILL HELP YOU UNDERSTAND WHY THIS SUBJECT IS SO

VGT OFF

OUR SCHOOL CHILDREN ARE TAUGHT READING, WRITING, HISTORY,
MATHEMATICS, AND SCIENCE. AS THEY PROGRESS THROUGH SCHOOL
THEY LEARN MORE AND MORE ABOUT THESE AND OTHER SUBJECTS.
WHEN THEY GO TO COLLEGE THEY CONTINUE TO GET GENERAL

KNOWLEDGE, BUT THEY ALSO CHOOSE A MAJOR FIELD AND BEGIN,

APOSTO SPECIALIZE IN ONE AREA. THEY BECOME SCIENTISTS, ARTISTS,

SCHISTORIANS, DOCTORSTOR SOLDIERS. WHEN PEOPLE BEGIN THEIR

JOBS THEY CONTINUE TO LEARN. BUT THEY MOSTLY LEARN THOSE

THINGS WHICH HELP THEM TO DO THEIR JOBS.

# (TRANSLATION)

WHEN A MAN BECOMES A SOLDIER HE FINDS OUT THAT THERE

ARE MANY DIFFERENT KINDS OF SOLDIER. HE COULD BE A

RIFLEMAN, MECHANIC, TANK GUNNER OR PILOT. EVERY SOLDIER

LEARNS SOME COMMON TASK SUCH AS HOW TO SHOOT A RIFLE OR

MARCH. BUT NOT EVERY SOLDIER NEEDS TO KNOW HOW TO FIX

THE ENGINE IN A HELICOPTER. WHEN WE TEACH A MECHANIC TO

FIX THE ENGINE IN A HELICOPTER HE DOES NOT NEED TO KNOW

HOW TO REFINE OIL TO MAKE FUEL, OR HOW TO MAKE THE METAL

used in the engine. We want him to know how to fix the

TO STATE OF THE PROPERTY OF TH

POORLY. SOMETIMES THE ECTURED TO SOLDIERS ABOUT EQUIPMENT,

BUT WE DID NOT LET THEM PRACTICE ENOUGH TO ALLOW THEM TO

LEARN. AT OTHER TIMES, WE REQUIRED MORE PRACTICE THAN WAS

NECESSARY. THIS OFTEN BORED STUDENTS AND WASTED TIME.

# (TRANSLATION)

VGT 3

WE TAUGHT SOLDIERS INFORMATION WHICH THEY DID NOT

NEED TO KNOW. FOR EXAMPLE, WE SPENT SEVERAL HOURS TEACHING

THE ELECTRICAL THEORY OF OPERATION OF ELECTRICAL TEST

EQUIPMENT. KNOWLEDGE OF ELECTRICAL THEORY WAS NOT NEEDED

70 OPERATE THE EQUIPMENT. THEY NEEDED TO KNOW HOW TO

AND THE MEDIAN BETTURN LIT ON AND FIND A BURNED OUT SWITCH OR RELAY. TO BE AND A SECOND OF THE SECON

THE CHARLEST HOW I SEE THE CTRANSLATION OF THE PROPERTY OF THE COMME

VGT OFF WE CONTINUED TO TRAIN FOR SPECIFIC AMOUNTS OF TIME

RATHER THAN TRAIN UNTIL PEOPLE HAD LEARNED HOW TO DO THE

JOB. OFTEN MILITARY SCHOOLS TAUGHT THINGS WHICH WERE NO

LONGER BEING DONE IN THE UNITS.

WE ALLOWED OUR SCHOOLS TO CONTINUE TO TRAIN THE
WAY THEY ALWAYS HAD. SOME OF THESE TRAINING METHODS WORKED.
HOWEVER, THEY ALL NEEDED TO BE REVIEWED AND IMPROVED WHERE
POSSIBLE. WE NEEDED TO MAKE ANY CHANGE NECESSARY TO IMPROVE
OUR TRAINING, BUT WE RESISTED CHANGE WHEN THE NEED TO
CHANGE SHOULD HAVE BEEN OBVIOUS. OUR EQUIPMENT HAD IMPROVED

GREATLY AND POSSESSED MANY CAPABILITIES. WE NEEDED TO TRAIN TO UTILIZE EVERY CAPABILITY OF OUR EQUIPMENT.

CIRCLANDON CONTRACTION CONTRACTOR

THE PROBLEMS OF TRAINING WE LOOKED TO THE "SYSTEMS APPROACH" WHICH HAD BEEN USED IN ENGINEERING AND MANAGEMENT. THE TERM "SYSTEM" IS DEFINED AS A "A SET OR ASSEMBLAGE OF THINGS CONNECTED, OR INTERDEPENDENT, SO AS TO FORM A COMPLEX UNITY; A WHOLE COMPOSED OF PARTS IN ORDERLY ARRANGEMENT ACCORDING TO SOME SCHEME OR PLAN."

# (TRANSLATION)

VGT 4 A SIMPLE EXAMPLE OF A SYSTEM IS THIS HELICOPTER. ALONE IT DOES NOTHING. BUT WHEN WE ASSEMBLE THE PILOT, THE

MAINTENANCE, THE LOAD, AND GIVE THE PILOT A PLAN OR

DIRECTION OF WHERE TO GO, WE HAVE A SYSTEM. ALL THESE

PROPERTY OF FACTORS AND OTHERS ACT TOGETHER TO ACCOMPLISH A MISSION.

RECTION OF WHERE TO GO, WE HAVE A SYSTEM. ALL THESE

PROPERTY OF ACTORS AND OTHERS ACT TOGETHER TO ACCOMPLISH A MISSION.

TEN (TRANSLATION) TO THE APPROPRIES.

VGT 5 HERE WE SEE THAT MANY FACTORS IMPACT ON TRAINING.

KNOWLEDGE OF THE SEPARATE SUBJECTS WILL NOT PRODUCE A WELL

TRAINED SOLDIER. TO BE EFFECTIVE THE TRAINING DEVELOPER

MUST ANALYZE THE INTERRELATIONSHIP OF ALL THE FACTORS.

HE MUST THEN DEVELOP TRAINING SO THE SOLDIER LEARNS HOW

THESE FACTORS AFFECT HIS JOB ACCOMPLISHMENT.

VGT 6

THE US ARMY AVIATION CENTER USES THE INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD) PROCESS TO DEVELOP TRAINING.

WE WILL BRIEFLY DISCUSS THE ISD PROCESS AND HOW IT DEVELOPS TRAINING TO MEET THE NEEDS OF THE SOLDIER.

ISD IS A SYSTEMS APPROACH TO TRAINING. IT ATTEMPTS TO

OTHER ALE: INITIAKE INTO ACCOUNT ALL: THE FACTORS WHICH AFFECT THE ABILITY OF

OHIO THE BOUND A ISOLDIER TO DO HIS JOB. HT IS A VERY DETAILED PROCESS

IMPLEMENTATION AND CONTROL. WE WILL COVER EACH OF THESE

PHASES SEPARATELY IN OUR DISCUSSION.

#### (TRANSLATION)

ABOUT THE ISD PROCESS. IT CAREFULLY ANALYZES WHAT A JOB
IS BY CONDUCTING DETAILED STUDIES OF SOLDIERS DOING THE
JOB IN THE UNIT. IT THEN APPLIES MODERN EDUCATIONAL
METHODS TO TEACH SOLDIERS HOW TO DO THOSE JOBS EITHER IN
SCHOOLS OR IN THE UNIT. WHEN THE SOLDIER COMPLETES HIS
TRAINING, HIS ABILITY TO PERFORM HIS JOB IS AGAIN

EVALUATED IN THE UNIT TO INSURE THE TRAINING GOAL HAS BEEN

The Control of the State of the

MET.

CARRY TORRANGE CONTRACTOR OF THE STATE OF TH

JOBS ARE, BREAKING THEM DOWN INTO STATEMENTS OF TASKS, AND
SELECTING THE CRITICAL TASKS FOR TRAINING. THIS IS DONE BY
INTERVIEWS WITH PEOPLE AT WORK, SURVEYS, OR, IN THE CASE OF
NEW EQUIPMENT, ANALYZING SIMILAR JOBS AND WORKING WITH THE
EQUIPMENT DEVELOPER.

# (TRANSLATION)

DURING THE ANALYSIS PHASE WE IDENTIFY ALL THE TASKS WHICH MAKE UP A JOB. WE THEN DETERMINE THE CRITICAL TASKS WHICH WE SELECT FOR TRAINING AND THE STANDARD OF PERFORMANCE

REQUIRED. JOB PERFORMANCE MEASURES ARE CONSTRUCTED TO

TEST THE PERFORMANCE OF THESE TASKS IN THE FIELD AND TO

EXPLANABLE TEST THAT STANDARDS ARE BEING MET. IF THE TASKS SELECTED

ARE ALREADY BEING TAUGHT, WE ANALYZE THE EXISTING TRAINING

TO INSURE IT IS VALID. WE ALSO SELECT THE INSTRUCTIONAL

SETTING WHICH COULD BE A SELF TEACHING INSTRUCTION BOOK,

OJE, OR A RESIDENT SCHOOL.

## (TRANSLATION)

VGT 9 IN THIS EXAMPLE WE HAVE IDENTIFIED THE JOB OF HELICOPTER MECHANIC.

# (TRANSLATION)

PERFORM. QUSE POINTER)

(TRANSLATION)

# LIFT TAB 2 WHEN WE ANALYZE THE DUTY OF TUNING ENGINES WE SEE .

DUTY OF TUNING ENGINES. THROUGH ANALYSIS OF THESE TASK

WE WOULD IGNORE TASK B4 (USE POINTER) BECAUSE IT IS NOT

CRITICAL TO THIS DUTY.

#### (TRANSLATION)

OUR ANALYSIS SHOWS THAT TRAINING IS REQUIRED FOR TASKS B1,
B2 AND B3 (USE POINTER).

# (TRANSLATION)

WE WOULD THEN ANALYZE EXISTING COURSES AND DETERMINE THAT

TASK B1 (USE POINTER) IS BEING TAUGHT IN SCHOOL AND THAT

THE TRAINING SATISFIES JOB REQUIREMENTS.

# (TRANSLATION)

ANALYSIS COULD SHOW THAT TASK B2 (USE POINTER) CAN BE

TAUGHT USING AN ILLUSTRATED JOB BOOKLET. THIS WOULD BE

A TRAINING PUBLICATION WITH ILLUSTRATED STEP-BY-STEP

INSTRUCTIONS SHOWING IN DETAIL THE TASK OF REPLACING SPARK

PLUGS. THIS COULD BE USED IN THE UNIT, SAVING TRAINING TIME

#### (TRANSLATION)

REQUIRE FURTHER TRAINING. WE WOULD THEN CONSTRUCT JOB

PERFORMANCE MEASURES FOR EACH SUB-TASK AND PROCEED IN

DESIGNING TRAINING TO TEACH EACH OF THESE TASK.

IN THE SCHOOL.

# (TRANSLATION)

VGT OFF

THE PRIMARY CONCERN OF ANALYSIS IS TO IDENTIFY THOSE TASKS
WHICH MAKE UP A JOB AND THEN DETERMINE WHICH OF THOSE TASKS

ARE CRITICAL TO THE SUCCESSFUL COMPLETION OF THE JOB. BY,

THE CONTROL OBSERVING A MAN DOING HIS JOB IN HIS UNIT WE INSURE THAT WE

THE CONTROL OF THE JOB. BY,

(TRANSLATION)

ANALYSIS IS LISTED FIRST IN THE ISD PROCESS, BUT IT MUST BE A CONTINUING EFFORT. AS EQUIPMENT, DOCTRINE AND TACTICS CHANGE WE MUST CONTINUE TO REVISE OUR TRAINING TO MEET THE NEW NEEDS. IN ARMY AVIATION, THE USE OF SOPHISTICATED ANTI-AIRCRAFT WEAPONS BY THE ENEMY FORCED US TO CHANGE OUR TACTICS TO USE LOW LEVEL AND NAP-OF-THE-EARTH FLIGHT. BECAUSE OF THIS WE ANALYZED THE TASKS REQUIRED TO FLY NAP-OF-THE-EARTH AND DEVELOPED OUR TRAINING PROGRAM SO THAT PILOTS WOULD ARRIVE IN THE UNITS TRAINED TO FLY AND BE SUCCESSFUL IN ACCOMPLISHING THE UNIT MISSION USING THESE NEW FLIGHT

TECHNIQUES.

THE PROPERTY AND ASSESSMENT

# * (TRANSLATION)

PHASE II, DESIGN, USES THE DATA GENERATED BY THE

ANALYSIS PHASE TO DEVELOP LEARNING OBJECTIVES, DEVELOP

TEST OF THE LEARNING OBJECTIVES, DEFINE ENTRY BEHAVIOR

AND TO DETERMINE THE SEQUENCE AND STRUCTURE OF THE

LEARNING OBJECTIVES.

# (TRANSLATION)

LEARNING OBJECTIVES ARE THE THREE PART SEQUENCE OF

STATING THE TASK TO BE PERFORMED, THE CONDITIONS UNDER

WHICH IT WILL BE PERFORMED, AND THE STANDARDS TO WHICH IT

WILL BE PERFORMED.

THIS IS AN EXAMPLE OF A LEARNING OBJECTIVE FOR A HELICOPTER MECHANIC. HIS TASK IS TO REPLACE SPARK PLUGS.

THE CONDITIONS FOR PERFORMING THIS TASK ARE, USING AN ARE AND EQUIPMENT THE MOULD THE WOULD THEN BE TESTED TO INSURE HE HAD A STANDARD.

#### (TRANSLATION)

THE MAN'S BASIC ABILITY OR THE LEVEL OF TRAINING HE HAS

ALREADY ATTAINED. IF THE DESIGN PHASE OF THE ISD PROCESS

DETERMINES THAT ALL STUDENTS MUST KNOW HOW TO PERFORM

CERTAIN BASIC TASKS BEFORE THEY GO TO THE HELICOPTER MECHANIC

SCHOOL THERE IS NO NEED TO INCLUDE THIS TRAINING IN THE

SCHOOL. BY PROPERLY DETERMINING THE BASIC APTITUDE AND

THE LEVEL OF KNOWLEDGE REQUIRED FOR A COURSE WE CAN DEVELOP

AN ENTRANCE EXAM. THIS WILL ALLOW US TO ACCEPT ONLY THOSE

PHYSICAL TO MAKE SURE HEARING VISION AND REFLEXES ARE SOUND.

#### (TRANSLATION)

WE ALSO GIVE A TEST WHICH SHOWS PICTURES LIKE THESE

AND ASK THE POTENTIAL STUDENT PILOT THE ATTITUDE OF HIS

AIRCRAFT. BY PROPERLY DESCRIBING ENTRY BEHAVIOR WE CAN

ELIMINATE UNNECESSARY TRAINING AND SELECT THOSE INDIVIDUALS

WHO CAN BE TRAINED IN THE LEAST AMOUNT OF TIME.

## (TRANSLATION)

VGT 10 THE LAST STEP OF DESIGN PHASE IS TO DETERMINE SEQUENCE

AND STRUCTURE OF LEARNING OBJECTIVES. IN THIS STEP WE

DETERMINE WHICH LEARNING EVENTS ARE DEPENDENT OR

EAST-MATTER - MINDEPENDENT: FIFEVENTS ARE DEPENDENT THEY MUST BE SEEN

将一种新加州建筑DEARNED IN A CERTAINTORDER、 FFOR EXAMPLE DEFORE YOU (1986) (1986)

** CAN LEARN HOW TO DO A HOVERING AUTO-ROTATION YOU MUST

FIRST LEARN HOW TO HOVER. THE OBJECT OF THE DESIGN PHASE

IS LEARNING ANALYSIS.

# (TRANSLATION)

VGT 12.1 WE LOOK AT THIS JOB ANALYSIS AND DETERMINE ONE OF

THE TASKS IS TO NAVIGATE FROM POINT A TO POINT B.

(USE POINTER).

# (TRANSLATION)

VGT 13

HERE WE SEE THE LEARNING ANALYSIS OF THIS TASK.

IT SHOWS ALL THE STEPS NECESSARY TO LEARN THIS ONE

TASK. IN THE DESIGN PHASE WE CONDUCT THE LEARNING ANALYSIS

TO DETERMINE THE LEARNING OBJECTIVES WHICH SUPPORT THE

THE PROPER OBJECTIVES IN THE PROPER

CATSEQUENCE SO THE SKILL CAN BE LEARNED.

#### (TRANSLATION)

PHASE III; DEVELOP, CONSISTS OF THE STEPS SHOWN HERE.

IN DEVELOPMENT PHASE WE SPECIFY LEARNING EVENTS/ACTIVITIES

WHICH MUST OCCUR IN ORDER TO PRODUCE THE DESIRED OUTCOME.

THESE LEARNING EVENTS AND ACTIVITIES ARE DEPENDENT ON

LEARNING GUIDELINES WHICH HAVE BEEN DEVELOPED BASED ON

RESEARCH IN THE PSYCHOLOGY OF LEARNING.

# (TRANSLATION)

VGT 15

THE BASIC LEARNING CURVE SHOWN HERE ILLUSTRATES HOW

WE GAIN PROFICIENCY RAPIDLY WHEN TRAINING BEGINS. HOWEVER,

AS WE CONTINUE OUR TRAINING WE TEND TO LEVEL OFF. TO

CONTINUE THE SAME AMOUNT OF TRAINING OR INCREASE TRAINING

CHARM COMMISSION AT ETHE PEAK PROFICIENCY LEVEL WILL PRODUCE LITTLE OR NO

CHARM COMMISSION AT ETHE PEAK PROFICIENCY. WE CAN, HOWEVER, AT THIS TIME

TASK AND STILL MAINTAIN THE SAME LEVEL OF PROFICIENCY.

### (TRANSLATION)

CURVE. BY PROVIDING THE PROPER AMOUNT OF PRACTICE WE CAN

MAINTAIN THE HIGH PROFICIENCY LEVEL AT REDUCED COST. ALSO

BY PROVIDING THE PROPER AMOUNT OF PRACTICE WE CAN REDUCE

OR ELIMINATE THE FORGETTING CURVE.

# (TRANSLATION)

VFT 17 THE FOUR (4) GENERAL LEARNING GUIDELINES WHICH APPLY

ARE SHOWN HERE. INFORMING THE STUDENT OF THE EXACT

OBJECTIVE ENABLES HIM TO SPEND HIS TIME WORKING TOWARD THE

COMPANIEND OBJECTIVE RATHER THAN ATTEMTPING TO DETERMINE WHAT THE

SPECIAL POLICE OBJECTIVE IS URCHESBUTLES HIS SKILLS THROUGH PRACTICE AND ADDRESS OBJECTIVE IS URCHESBUTLES HIM TO PRACTICE THE RIGHT WAY

RATHER THAN LEARN BAD HABITS. FEEDBACK IS ESSENTIAL IN

THE LEARNING PROCESS. IT IS NOT ENOUGH TO TELL THE STUDENT

HE IS WRONG. HE MUST ALSO BE TOLD HOW TO CORRECT HIS

ERRORS.

# (TRANSLATION)

WHEN WE SPECIFY THE INSTRUCTIONAL DELIVERY SYSTEM WE

MUST USE THE TRAINING GUIDELINES. OFTEN WE USE NEW

TRAINING EQUIPMENT SUCH AS FILMS OR SIMULATORS BECAUSE

THEY ARE AVAILABLE RATHER THAN TO MEET TRAINING GUIDELINES.

DELIVERY SYSTEMS MUST BE BASED ON DEFINED REQUIREMENTS.

CHAMBLE COMPRIGNIES CONTRACTOR (TRANSLATION) OF MALE SAFEKARANE

TRIVINGTO 18 PATE PRIFES MATHE FLIEARNING FIGUIDED INESTAND THE DELIVERY SYSTEM THELP TATE FOR

ORGANIZATIONAL PLAN WHICH BLENDS THE STUDENT, INSTRUCTORS

AND SUPPORT INTO A WORKING ORDER. THIS LAYS OUT THE ORDER

OF INSTRUCTION ACCOUNTING FOR THE AMOUNT AND TYPE OF

INSTRUCTION.

### (TRANSLATION)

STEPS 3, 4, AND 5 ARE STRAIGHTFORWARD. WE REVIEW THE MATERIAL

THAT IS ALREADY IN USE AND DEVELOP ADDITIONAL INSTRUCTIONAL

MATERIAL AS NEEDED. THIS MATERIAL IS REVIEWED BY EXPERTS AND

THEN TESTED ON SMALL SAMPLE GROUPS OF STUDENTS. THIS VALIDATION

INSURES THAT OUR INSTRUCTIONAL MATERIAL IS MEETING THE REQUIRED

PERFORMANCE OBJECTIVES, AND THAT THE STUDENTS ARE ABLE TO

極度技術技術的APERFORM THE REQUIRED TASK TO THE SPECIFIED GOALS. ロードウルカース

PROMISE AND ADMINISTRATION OF A SECTION OF A

PHASE IV, IMPLEMENT, ACTUALLY PUTS INTO EFFECT THE

INSTRUCTIONAL MANAGEMENT PLAN. IT PROVIDES TIME, DATE, AND

PLACE DATA. THE PRIMARY FOCUS OF THE IMPLEMENTATION PHASE

SHOULD BE THE TRAINING OF THE INSTRUCTORS. AS WE SHALL

SEE WHEN WE DISCUSS SIMULATORS, THE INSTRUCTIONAL DELIVERY

SYSTEM MAY BE VERY MUCH DIFFERENT FROM THE ACTUAL EQUIPMENT

IT IS DESIGNED TO SIMULATE. IT IS VERY IMPORTANT THAT THE

INSTRUCTORS RECOGNIZE THESE DIFFERENCES AND HOW THE

TRAINING VALUE CAN BE GREATLY INCREASED.

(TRANSLATION)

NO STUDENTS ARE INVOLVED UNTIL THE SECOND STEP OF THIS

NEWS CONTROL OF STUDENTS MUST MATCH. THE CONTROL OF STUDENTS MUST MATCH. THE CONTROL

· 含定角的DX指引擎的容ENTRY,LEVELY BEHAVIOR DETERMINED (IN )THE (DESIGN )PHASE () 1 (2) (2) (2)

" MODERN ACTION

(TRANSLATION) OF MEAN ACTION OF

THE ISD PROCESS USES A SYSTEMATIC APPROACH TO DETERMINE
WHAT A STUDENT NEEDS TO KNOW WHEN HE GETS TO HIS JOB. IT THEN
APPLIES THE PRINCIPLES OF LEARNING AND USES DEVICES AND AIDS
SUPPLIED BY MODERN TECHNOLOGY TO TEACH THOSE TASKS. PREVIOUS
METHODS OF INSTRUCTION AND TESTING PRESENTED MATERIAL TO THE
STUDENT AND ALLOWED HIM TO PASS IF HE SHOWED THAT HE KNOW A
PERCENTAGE, USUALLY 70%, OF THE MATERIAL. NO EFFORT WAS
EVER MADE TO EXPLAIN WHERE THE OTHER 30% OF THE INFORMATION
WAS TO COME FROM OR IF THE STUDENT NEEDED TO KNOW IT WHEN

HE GOT TO HIS UNIT. ISD GOES TO THE UNIT TO DETERMINE WITH KNOWLEDGE AND SKILLS ARE REQUIRED. THEN IT SYSTEMATICALLY DEVELOPS INSTRUCTIONS AND TESTS TO INSURE THE STUDENT CAN

LEFT SCHOOL AND STARTS TO WORK IN THE UNIT, THE ISD PROCESS

CONTINUES TO EVALUATE HIM AND HIS ABILITY TO DO HIS JOB.

#### (TRANSLATION)

VGT 20

PHASE V, CONTROL, ESTABLISHES THE PROCEDURES AND

TECHNIQUES FOR MAINTAINING INSTRUCTIONAL QUALITY CONTROL.

WE CONDUCT INTERNAL EVALUATIONS IN THE SCHOOLS TO INSURE

THAT THE LEARNING OBJECTIVES ARE BEING MET. WE ALSO

CONDUCT EXTERNAL EVALUATIONS IN THE UNITS TO DETERMINE FIRST

IF GRADUATES ARE MEETING THE LEARNING OBJECTIVES IN THE

UNIT, AND SECOND IF THE LEARNING OBJECTIVES IN THE UNIT

## (TRANSLATION)

THIS COMPLETES THE CYCLE OF THE ISD PROCESS. WE SEE

HERE THE NATURE OF THIS PROCESS AS A CONTINUOUS CIRCLE. IT

IS IMPORTANT TO UNDERSTAND THAT THIS PROCESS CANNOT STOP.

THE CONTROL PHASE MAY UNCOVER ERRORS IN ANY PHASE OF THE

PROCESS. THE EXTERNAL FACTORS OF RESEARCH, CHANGING

TACTICS. EQUIPMENT IMPROVEMENTS OR NEW EXPERIENCES MAY

CHANGE THE FACTORS ON WHICH WE BASED OUR ORIGINAL ANALYSIS:

WE MUST CONTINUE TO EVALUATE OUR NEEDS TO INSURE WE ARE

PROVIDING OUR SOLDIERS WITH THE TRAINING THEY NEED TO

DEFEAT THE ENEMY WE FACE.

# (TRANSLATION)

THIS CONCLUDES THE PRESENTATION ON TRAINING DEVELOPMENTS.

I AM AVAILABLE FOR ANY QUESTIONS YOU HAVE WHILE YOU DISCUSS

THIS ISSUE.

(TRANSLATION)

# VGT 1 AT THIS TIME WE WILL CONTINUE OUR TRAINING DEVELOPMENT

THE BRAIL FOR WORKSHOP WITH A PRESENTATION OF THE ARMY TRAINING AND THE

表现在现在分类是更多是VALUATION PROGRAM (CARTER) AND THE AIRCREW TRAINING MANUAL (ATM)

WE WILL SEE THAT THE ARTEP AND THE ATM ARE PRODUCTS OF THE ISD PROCESS EXPLAINED DURING OUR FIRST SESSION.

### (TRANSLATION)

AS YOU WILL RECALL, THE EMPHASIS OF ISD IS TO

ANALYZE THE JOB REQUIREMENTS OF THE UNITS AND THEN

PREPARE INSTRUCTIONAL MATERIAL TO ASSIST THE UNITS IN

TRAINING TO MEET THE OBJECTIVES OF THOSE REQUIREMENTS.

## (TRANSLATION)

AVIATION TRAINING IN THE PAST HAS BEEN DIRECTED

BY HIGHER HEADQUARTERS IN TERMS OF REQUIRED SUBJECTS

AND FLIGHT HOURS. AVIATION UNITS WERE REQUIRED TO CONDUCT

TACTICAL OPERATIONS. THE AVIATORS WERE TOLD TO FLY

20 HOURS OF TACTICAL FLYING. HOWEVER, THESE STATEMENTS

WERE TOO GENERAL. THEY DID NOT INDICATE WHAT MISSIONS

WERE REQUIRED OF THE UNITS: THEY DID NOT INCLUDE TASKS

THE AVIATORS WERE EXPECTED TO BE ABLE TO PERFORM AT THE

END OF 20 HOURS.

#### (TRANSLATION)

VGT OFF

AS A RESULT, EACH UNIT HAD TO DEVELOP ITS OWN

TRAINING PROGRAM. THIS WASTED THE TIME AND EFFORTS OF

THE COMMANDERS. IT ALSO FAILED TO USE THE TESTING AND

RESEARCH EFFORT BEING CONDUCTED AT THE AVIATION CENTER.

THIS RESERACH REVEALED THAT THE TRAINING AND EVALUATION

PROCEDURES BEING FOLLOWED WERE NOT ACHIEVING THE DESIRED

RESULTS. IT WAS CLEAR THAT NEW AND IMPROVED TRAINING

PROCEDURES WERE NEEDED. THE ARMY TRAINING PROGRAMS

USED TO PREPARE UNITS TO FIGHT THE WAR AGAINST JAPAN

WERE NO LONGER ABLE TO MEET OUR NEEDS.

## (TRANSLATION)

THE ARMY TRAINING AND EVALUATION PROGRAM (ARTEP)

WAS DEVELOPED TO MEET THE NEEDS OF UNIT TRAINING. IT

CONTAINS A LIST OF MISSIONS OR TASKS A UNIT MUST BE

ABLE TO ACCOMPLISH TO BE SUCCESSFUL IN COMBAT.

# (TRANSLATION)

HERE IS AN EXAMPLE OF AN ARTEP TASK FOR AN ATTACK
HELICOPTER BATTALION. (USE POINTER AND EXPLAIN VGT).

THIS EXAMPLE INCLUDES A STATEMENT OF THE TASK TO BE
PERFORMED. A STATEMENT OF THE CONDITIONS UNDER WHICH

THE TASK WILL BE PERFORMED. AND A STATEMENT OF THE TRAINING/
EVALUATION STANDARDS WHICH MUST BE MET IN PERFORMANCE OF.

THESE TASKS.

CTRANSI ATTONI

(TRANSLATION)

VGT 4 HERE IS AN ILLUSTRATION OF THIS TASK BEING PERFORMED.

#### (TRANSLATION)

EACH TYPE UNIT IS GIVEN EQUIPMENT AND PEOPLE TO

ALLOW IT TO DO SOME SPECIFIC MISSIONS. THIS IS THE

TABLE OF ORGANIZATION AND EQUIPMENT (TOE). THE ARTEP

IS DEVELOPED BY REVIEWING THE TOE TO DETERMINE THE

TYPE OF MISSIONS THE UNIT COULD PERFORM. THEN UNITS

ARE OBSERVED DOING THEIR MISSIONS. FINALLY TESTS ARE

CONDUCTED TO DETERMINE HOW WELL THE UNIT MUST BE ABLE

TO PERFORM. A LIST OF UNIT MISSIONS IS DEVELOPED FROM

THIS ANALYSIS. IT INCLUDES THE MISSIONS, THE CONDITIONS

AND THE STANDARDS TO WHICH

RESERVED THEY MUST BE PERFORMED THESE MISSIONS ARE STATED IN TERMS

OF TASKS TO BE PERFORMED BY THE CREW, SECTION, PLATOON,

COMPANY AND BATTALION. FROM THIS LIST IT CAN BE SEEN

THAT THE UNIT MISSION CANNOT BE ACCOMPLISHED UNTIL THE

INDIVIDUAL TASKS ARE MASTERED.

## (TRANSLATION)

THE UNIT COMMANDER USES TO DEVELOP A REALISTIC

INDIVIDUAL TRAINING PROGRAM FOR HIS AVIATORS.

## (TRANSLATION)

VGT 5 THE BASIC ELEMENT OF THE ATM IS THE AVIATOR TASK

MILE IN WAS DEVELIST. LITHIS LIST: WAS DEVELOPED USING THE SAME COMPLETE

ANALYSIS DESCRIBED IN THE ISD PROCESS. THE TASKS RANGE

FROM BASIC FLYING SKILLS, SUCH AS PERFORM NORMAL TAKE
SCOFF, TO COMBAT SKILLS, SUCH AS PERFORM NAP-OF-THE-EARTH

FLIGHT.

### (TRANSLATION)

STANDARDS FOR THE TASK. IT ALSO GIVES A DESCRIPTION

OF THE TASK ALONG WITH ADDITIONAL REFERENCES. THE

PHILOSOPHY OF THE ATM IS TO TRAIN THE AVIATOR TO REACH

AND MAINTAIN A SPECIFIC LEVEL OF PROFICIENCY.

# (TRANSLATION)

VGT 6 OFF BOTH THE ARTEP AND THE ATM ARE DESIGNED TO TRAIN TO PROFICIENCY. ATMS AND THE ARTEP ARE LINKED TO AND COMPLEMENT EACH OTHER. THE ATM'S LIST INDIVIDUAL SKILLS.

THE ARTEP LIST THE GROUP TASKS WHICH REQUIRE COORDINATION E 100 BENDERAL AND TEAMWORK TO BIND THE INDIVIDUAL SKILLS. BOTH REQUIRE DIFFERENT MISSIONS. "THE EXPERIENCE LEVELS" AND ABILITIES OF AVIATORS DIFFER. THE STARTING POINT IS TO ANALYZE THE THREAT AND DETERMINE HOW THE UNIT WILL DEFEAT THAT THREAT. THIS WILL ALLOW THE COMMANDER TO SELECT THOSE MISSION TASKS HIS UNIT MUST PERFORM. IN TURN THESE MISSION TASKS WILL BE BROKEN DOWN INTO THE MISSION COMPONENTS OR INDIVIDUAL TASKS

## (TRANSLATION)

TO BE PERFORMED BY THE AVIATOR.

AN EVALUATION IS CONDUCTED TO DETERMINE THE AREAS IN WHICH

THE LEVEL OF PROFICIENCY IS SUBSTANDARD. THE UNIT AND

INDIVIDUAL TRAINING PROGRAMS ARE THEN DESIGNED TO IMPROVE

THIS IS A VERY COST EFFECTIVE METHOD.

TRAINING TIME AND MONEY ARE SPENT ON THOSE TASKS WHICH REQUIRE

Carlo Mainer & Carlo

ADDITIONAL TRAINING.

(EXPLAIN VGT)

## (TRANSLATION)

VGT OFF

THE EVALUATION OF ARTEP AND ATM MISSION PROFICIENCY

CAN BE USED BY THE COMMANDER TO INDICATE UNIT TRAINING

READINESS. BY JUDGING THE IMPORTANCE OF EACH ARTEP TASK

AND EVALUATING THE LEVEL OF PROFICIENCY OF EACH AVIATOR,

HE CAN DETERMINE THE COMBAT CAPABILITY OF HIS UNIT.

## (TRANSLATION)

VGT 8 HERE IS A LIST OF TASKS SELECTED FOR TRAINING BY A

## UNIT COMMANDER.

CHRADREATIONS THE CTRANSLATION

OVERLAY I ON THIS IS THE COMMANDER'S EVALUATION OF THE CAPABILITY OF HIS UNIT TO PERFORM THESE TASKS. THIS EVALUATION SHOWS THAT HE MUST CORRECT HIS TRAINING PROGRAM TO IMPROVE THE PERFORMANCE OF THE TWO UNSATISFACTORY TASKS. WE MUST ALWAYS REMEMBER THAT THE PURPOSE OF THE EVALUATION IS TO POINT OUT AREAS WHERE CORRECTION TO THE TRAINING CAN BE MADE.

# (TRANSLATION)

THE ARTEP AND ATM ARE ALSO EXCELLENT TOOLS TO MEASURE TRAINING COSTS AND EFFECT. AS THE COMMANDER DEVELOPS THE UNIT TRAINING PROGRAM, HE WILL SELECT THOSE TASKS HIS UNIT MUST ALWAYS PERFORM. HE THEN SELECTS SOME TASKS WHICH THE UNIT MAY ONLY OCCASIONALLY PERFORM. HE

DETERMINES THE NUMBER OF TIMES EACH AVIATOR WILL PRACTICE

THE VARIOUS TASKS ... THE COST ASSOCIATED WITH EACH ..

程序的 NET YO TERMISSION TASK CANTBE DETERMINED BASED ON FLYING HOURS. 1997年11年11

REQUIRED. BY USING THIS INFORMATION THE COMMANDER CAN
DETERMINE THE COST OF DIFFERENT PARTS OF HIS TRAINING
PROGRAM.

### (TRANSLATION)

OVERLAY 2 HERE WE SEE THAT THE COMMANDER IS FORCED TO REDUCE

TRAINING BECAUSE OF FUND CONSTRAINTS. THE INFORMATION

HE HAS OBTAINED IN HIS EVALUATION WILL HELP HIM TO

SETERMINE WHICH TASKS TO ELIMINATE. IT WILL ALSO GIVE

HIM A METHOD TO MEASURE THE IMPACT OF SUCH A REDUCTION

ON TRAINING.

# (TRANSLATION)

VGT OFF THROUGHOUT OUR DISCUSSION OF ATM'S AND ARTEP'S.

SESSION OF THE FIVE PHASES OF ISD ARE EVIDENT. WESANALYZE THE 198

THE GREAT BROTHREAT AND THE UNITEMISSION TO SELECT THE MOBS FAND INSTAURS BUT

"TASKS THE UNIT MUST"PERFORM." WE <u>DESIGN</u> OUR TRAINING

BY CONVERTING THE MISSION TASK INTO LEARNING OBJECTIVES

WHICH MUST BE PERFORMED TO A RIGH STANDARD. WE THEN

DEVELOP OUR TRAINING PROGRAM USING THE LEARNING GUIDELINES

TO TELL THE AVIATORS WHAT THEY ARE EXPECTED TO PRACTICE.

T'IEN WE IMPLEMENT OR CONDUCT OUR TRAINING AND CONTROL IT

THROUGH EVALUATION, TO DETERMINE IF THE MISSION OBJECTIVES

ARE BEING MET.

# (TRANSLATION)

HERE ARE SEVERAL SAMPLES OF ATM'S AND ARTEP'S FOR
YOU TO KEEP AND USE. REMEMBER THESE ARE EXAMPLES OF WHAT

WE HAVE DETERMINED ARE NEEDED BY US ARMY AVIATORS. COMMANDERS THE TASK REQUIRED BY THEIR TO SELECT. THE TASK REQUIRED BY THEIR TO BE 长的液体的激素的基础USUNITED DETERMINE. "" THE THEN MUST EVALUATE TODAY'S TRAINING READINESS TO PLAN FOR TOMORROW'S TRAINING. IT IS RECOGNIZED THAT AVIATORS DIFFER IN EXPERIENCE AND ABILITY. ALSO UNITS VARY IN THE MISSIONS THEY ARE ASSIGNED AND THE THREAT THAT THEY FACE. YOU CAN USE THESE EXAMPLES TO HELP YOU DEVELOP TRAINING PROGRAMS TO MEET THE MISSION REQUIREMENTS OF YOUR UNITS AND

(TRANSLATION)

AVIATION PERSONNEL.

VGT 1

GOOD MORNING. OUR SUBJECT FOR THIS PERIOD IS

THE IMPLICATIONS OF SIMULATORS IN THE TRAINING DEVELOPMENT

EFFORT AND THEN WE WILL DISCUSS SOME OF THE EXPERIENCE

WHICH WE HAVE HAD IN UTILIZING THE UH-1 FLIGHT SIMULATOR.

THIS DISCUSSION WILL HAVE A DIRECT RELATION TO THE USES

OF YOUR UH-1 FLIGHT SIMULATOR.

VGT OFF

(TRANSLATION)

THE NEED FOR YOUR SIMULATION DEVELOPED VERY EARLY
IN AVIATION. EARLY PILOTS WERE TOLD WHAT TO DO AND THEN
THEY ATTEMPTED TO TAKE-OFF AND FLY. THERE WERE TWO
POSSIBLE RESULTS.

VGT 2

THEY WOULD EITHER FLY OR CRASH.

(TRANSLATION)

A PARTIAL SOLUTION TO THIS PROBLEM WAS DEVELOPED BY THE

INVENTOR OF THE HELCIOPTER.

ROPE.

CONVERTED FIXED WING INSTRUMENT TRAINERS. THEY WERE USED

SOLELY FOR INSTRUMENT PROCEDURE TRAINING. THEY NEITHER

LOOKED, FELT NOR REACTED LIKE A HELICOPTER IN FLIGHT.

IN 1965 THE AVIATION CENTER BEGAN TO DEVELOP ITS

REQUIREMENTS FOR A HELICOPTER INSTRUMENT TRAINER.

## (TRANSLATION)

VGT 5 IN 1971 THE NEW SYNTHETIC FLIGHT TRAINING SYSTEM SFTS

2B24 WAS INSTALLED AND TESTED. THE 2B24 WAS DESIGNED AS

A UH-1 INSTRUMENT TRAINER. IT DOES MUCH MORE THAN JUST

FEEL AND LOOK LIKE A HELICOPTER. IT IS A TRAINING DEVICE
WHICH CAN DUPLICATE THE PERFORMANCE OF THE UH-1 HELICOPTER
AND ALSO PERFORM OTHER TRAINING FUNCTIONS.

#### (TRANSLATION)

THE FLIGHT SIMULATOR IS DESIGNED TO TEACH THE STUDENT VGT 6 A WELL DEFINED SET OF TASKS. THIS RELATES TO ANALYSIS OF THE JOB IN THE ISD PROCESS. BY DEVELOPING A WELL DEFINED SET OF TASKS THE FUNCTIONS OF THE TRAINER CAN BE DEVELOPED TO MEET THE STUDENT TRAINING OBJECTIVES. BY USING ACTUAL AIRCRAFT INSTRUMENTS AND PARTS, THE COCKPIT LOOKS LIKE AN UH-1 COCKPIT, COMPUTER TECHNOLOGY PROVIDED A MEANS TO LINK CONTROL RESPONSES WITH MOTION AND INSTRUMENT INDICATION. THIS ALLOWS THE UH-1 FLIGHT SIMULATOR TO REACT AND FEEL LIKE A UH-1. BUT ADDITIONAL FUNCTIONS WERE DESIGNED INTO

THE UH-1 FLIGHT SIMULATOR. THESE FUNCTIONS DID NOT

#### (TRANSLATION)

STOP IN PLACE. WHEN THE STUDENT IS PRACTICING AN INSTRUMENT PROCEDURE HE MAY BECOME CONFUSED. THE INSTRUCTOR MAY DETERMINE THAT THE STULENT DOES NOT UNDERSTAND THE MANEUVER WELL ENOUGH TO CONTINUE. THE STUDENT OR INSTRUCTOR CAN STOP THE SIMULATOR AND TAKE TIME TO REVIEW THE PROCEDURE. THIS GIVES THE STUDENT TIME TO THINK AND LEARN THE PROCEDURE WITHOUT WORRY ABOUT CONTROLLING THE AIRCRAFT. IN AN ACTUAL

AIRCRAFT THE INSTRUCTOR WOULD HAVE BEEN REQUIRED TO TAKE

THE CONTROLS TO CORRECT THE MANEUVER. WHEN THE IP IS

FLYING THE STUDENT IS NOT PRACTICING. THIS ABILITY TO

THE AIRCRAFT.

#### (TRANSLATION)

IS NOT AVAILABLE IN THE AIRCRAFT IS THE FLIGHT TRACK DISPLAY.

THIS IS A TV SCREEN THAT RECORDS THE FLIGHT TRACK, ALTITUDE

AND AIRSPEED OF THE AIRCRAFT. WHEN THE STUDENT REQUESTS AN

INSTRUMENT APPROACH, THE TV DISPLAYS THE APPROACH AND THE

AIRWAY SYSTEM WHICH SUPPORTS IT. THEN THE TRACK OF THE

AIRCRAFT IS DISPLAYED OVER THE APPROACH DIAGRAM. THIS

SHOWS THE STUDENT WHAT THE AIRCRAFT IS DOING AND ELIMINATES

THE REQUIREMENT TO VISUALIZE THE MANEUVER IN HIS MIND.

AS THE STUDENT PRACTICES THE VARIOUS MANEUVERS HE BECOMES

MORE AND MORE FAMILIAR WITH THEM AND HIS SKILL INCREASES

RAPIDLY.

# CTRANSLATION)

OTHER TRAINING FUNCTIONS FOUND IN THE TRAINER WHICH ARE VGT 9 NOT AVAILABLE IN THE AIRCRAFT ARE AUTOMATED TRAINING FUNCTIONS. THESE ARE COMPUTER PROGRAMS WHICH EXPLAIN AND DEMONSTRATE MANEI"/ERS. AFTER DEMONSTRATION THE STUDENT IS ALLOWED TO TAKE OVER AND FLY THE MANEUVER WITH THE COMPUTER GIVING INSTRUCTIONS AND ALERTING THE STUDENT OF PERFORMANCE ERRORS. THE COMPUTER HAS THE ABILITY TO RECORD THE STUDENT PERFORMANCE AND PLAY IT BACK SO THE STUDENT CAN OBSERVE HIS ERRORS AND CORRECT HIS PERFORMANCE. ANOTHER FEATURE OF THE SIMULATOR IS THE REPOSITION FEATURE. WHEN THE

REPOSITIONED BACK INTO THE AIRWAY SYSTEM TO BEGIN

DECREASES THE TIME THAT WOULD BE REQUIRED IN THE ACTUAL

AIRCRAFT TO FLY TO ANOTHER AIRFIELD OR BACK TO THE

NAVIGATION FACILITY.

STUDENT COMPLETES AN APPROACH AND LANDING HE CAN BE

#### (TRANSLATION)

IS THE MALFUNCTION FEATURE. THE SIMULATOR HAS THE CAPABILITY

TO SIMULATE 104 AIRCRAFT MALFUNCTIONS. MANY OF THESE

MALFUNCTIONS SUCH AS ENGINE FIRE, COMPLETE ELECTRICAL

FAILURE OR LOSS OF TAIL ROTOR OR DRIVE TRAIN COMPONENTS,

CANNOT BE PRACTICES IN THE ACTUAL AIRCRAFT. WHEN AIRCRAFT

MALFUNCTIONS WERE FIRST PERFORMED IN THE SIMULATOR EXPERIENCED

THOROUGHLY BRIEFED AND HAD STUDIED THE EMERGENCY PROCEDURE

TO BE PERFORMED PRIOR TO THE SIMULATION. AFTER THE FIRST

PRACTICED. AFTER TRAINING IN THE SIMULATOR THE PILOTS LEARNED

TO PROPERLY ACCOMPLISH THE EMERGENCY PROCEDURE. ALTHOUGH

THE UH-1 FLIGHT SIMULATOR WAS INTENDED TO TEACH INSTRUMENT

PROCEDURES THE USE OF THE SIMULATOR TO TEACH EMERGENCY

PROCEDURES SHOULD NOT BE OVERLOOKED.

VGT OFF

#### (TRANSLATION)

THIS SLIDE SHOWS THE COST OF ONE HOUR OF UH-1 FLIGHT

SIMULATOR COCKPIT OPERATION COMPARED TO ONE HOUR OF UH-1

FLIGHT. THESE FIGURES VARY DEPENDING ON SUCH FACTORS AS

FUEL AND ELECTRICITY COST, MAINTENANCE COST, AND THE PAY

OF OPERATORS, IP'S AND MAINTENANCE PERSONNEL FOR BOTH THE

AIRCRAFT AND THE SIMULATOR. HOWEVER, THESE FIGURES GIVE

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HE SHOULD ALSO REMEMBER THAT THE CONFIDENCE AND

FAMILIARITY DEVELOPED THROUGH PRACTICE WITH THE UH-1

FLIGHT SIMULATOR INCREASES THE TRAINING VALUE OF EACH

VGT OFF

## (TRANSLATION)

WE HAVE DISCUSSED THE NEED OF FLIGHT SIMULATION, SOME

OF THE CAPABILITIES OF THE UH-1 FLIGHT SIMULATOR, AND THE

IMPORTANCE OF USING THE FLIGHT SIMULATOR AS A TOOL TO

ENHANCE STUDENT TRAINING. WE WILL NOW LOOK AT SOME OF

THE FACTORS WHICH MUST BE CONSIDERED IN DEVELOPING A

SIMULATOR TRAINING PROGRAM FOR ROKA AVIATION. THIS PROGRAM

SHOULD BE DEVELOPED TO GAIN THE GREATEST POSSIBLE BENEFIT

THE THE SHOW MEET THE STUDENT TRAINING OBJECTIVES. WITHOUT A STUDENT TO HELP

#### (TRANSLATION)

THE UH-1 FLIGHT SIMULATOR THAT YOU HAVE PURCHASED WILL BE INSTALLED AND READY FOR OPERATION SOON.

ONE OF YOUR FIRST CONSIDERATIONS IS MAINTENANCE OF THE DEVICE. DURING EARLY TESTS AT FORT RUCKER WE ATTEMPTED TO MAINTAIN THE UH-1 FLIGHT SIMULATOR USING MILITARY PERSONNEL. WE FOUND THAT THEY COULD KEEP THE DEVICE AVAILABLE FOR 80% OF THE TIME. AFTER THIS TEST WE CONTRACTED FOR MAINTENANCE FROM SINGER-LINK. WE FOUND THAT THE MAINTENANCE CONTRACT PROVIDED 97% AVAILABILITY.

**VGT 1:2** 

THE COST OF THE MAINTENANCE CONTRACT IS GREATER THAN THE COST OF MILITARY MAINTENANCE. HOWEVER, THE VALUE OF THE ADDITIONAL AVAILABLE TIME IS MUCH GREATER THAN THE DIFFERENCE IN MAINTENANCE COST. YOUR PURCHASE CONTRACT CALLS FOR ONE YEAR OF MAINTENANCE AND MAINTENANCE TRAINING BY SINGER-LINK. AT THE END OF THAT YEAR YOU CAN EITHER ASSUME THE MAINTENANCE LOAD JR NEGOTIATE ANOTHER CONTRACT. THIS DECISION MUST BE MADE AFTER STUDYING THE ABILITY OF YOUR PERSONNEL TO MAINTAIN AN ACCEPTABLE AVAILABILITY RATE FOR THE UH-1 FLIGHT SIMULATOR.

VGT OFF

## (TRANSLATION)

THE SELECTION AND TRAINING OF THE PERSONNEL TO OPERATE THE UH-1 FLIGHT SIMULATOR IS VERY IMPORTANT. THE ABILITY OF THE OPERATORS WILL AFFECT THE KIND OF TRAINING THAT CAN BE CONDUCTED WITH THE UH-1 FLIGHT SIMULATOR. PAST EXPERIENCE

AT FORT RUCKER HAS SHOWN THAT A PERSON WITH NO AVIATION BACKGROUND CAN BE TRAINED TO OPERATE THE SIMULATOR CONSOLE IN HEREIGN TO THE TIME. THIS PERSON WOULD HAVE THE ABILITY TO TURN FOR THE MACHINE ON, SET-UP-THE AUTOMATED TRAINING PROGRAMS, PROGRAM MALFUNCTIONS AND MONITOR THE OPERATION OF THE MACHINE. HOWEVER, IF THIS PERSON DID NOT HAVE A BACKGROUND IN INSTRUMENT FLYING OR AIR TRAFFIC CONTROL (ATC) PROCEDURES HE WOULD BE UNABLE TO ANSWER STUDENT QUESTIONS OR PROVIDE ATC INSTRUCTIONS. HE WOULD BE A MACHINE OPERATOR ONLY. IF THE AUTOMATED TRAINING CAPABILITY OF THE DEVICE IS BEING USED, SOME OF THIS INSTRUCTION CAN BE PROVIDED BY THE COMPUTER. IF THE STUDENTS ARE EXPERIENCED PILOTS RECEIVING TRANSITION OR REFRESHER TRAINING THEY WILL ONLY NEED THE OPERATOR TO TURN THE MACHINE ON AND CHANGE TAPES AS REQUESTED.

(TRANSLATION)

A PERSON WITH AN AVIATION BACKGROUND IN EITHER

INSTRUMENT FLYING OR AIR TRAFFIC CONTROL PROCEDURES CAN

BE TRAINED TO OPERATE THE CONSOLE IN A SHORT TIME ALSO.

EXPERIENCE CAN EXPLAIN INSTRUMENT MANEUVERS AND ACT AS

AN AIR TRAFFIC CONTROLLER. THIS GREATER RANGE OF KNOWLEDGE

AND EXPERIENCE MORE FULLY UTILIZES THE SIMULATOR TO ITS

#### (TRANSLATION)

FULLEST POTENTIAL, INCREASING TRAINING EFFECTIVENESS.

OPERATOR TRAINING IN THE UNITED STATES IS CONDUCTED

AT FORT RUCKER USING PROGRAMMED TEXT AND "HANDS-ON" PRACTICAL

EXERCISES, UNDER THE GUIDANCE OF EXPERIENCED PERSONNEL. YOU

HAVE BEEN GIVEN SELECTION CRITERIA FOR CONSOLE OPERATOR

TRAINEES BY SINGER-LINK. SINGER-LINK WILL PROVIDE OJE

FOR OPERATORS AS PART OF THE CONTRACT. YOU HAVE ALREADY

PURCHASED AN OPERATOR TRAINING PROGRAM.

A SELECTION OF A FEBRUARY OF THE CONTRACTION OF A SECRETARY OF THE CONTRACTION OF THE CONTRACT 
REPOYOF 13 TO THE PROPHERE ARE YOUR OPTIONS FOR SELECTING CONSOLE OPERATORS.

EXPERIENCED AVIATION PERSONNEL, PERSONNEL WITH NO AVIATION

EXPERIENCE, OR A COMBINATION OF BOTH. IN MAKING YOUR SELECTION

YOU SHOULD CONSIDER THE METHODS OF TRAINING AVAILABLE IN THE

UH-1 FLIGHT SIMULATOR.

VGT OFF

(TRANSLATION)

THE ORIGINAL DESIGN OF THE UH-1 FLIGHT SIMULATOR
.
INCLUDED THE AUTOMATED TRAINING FEATURE.

THIS IS A LIST OF THE AUTOMATED TRAINING AVAILABLE WITH

THE UH-1 FLIGHT SIMULATOR. THROUGH AUTOMATED INSTRUCTION IT

WAS FELT THAT THE NEED FOR INSTRUCTOR PILOTS COULD BE REDUCED.

(TRANSLATION)

THE ORIGINAL REQUIREMENT FOR TRAINING CALLED FOR AN

AT INSTRUCTOR PILOT (IP) AT THE CONSOLE. (POINT). THE

STATESTUDENTS WERE SUPPOSED TO RECEIVE INSTRUCTION FROM THE

COMPUTER TAPE. "WHEN THE PERFORMANCE MONITOR INDICATED A

SUTDENT WAS HAVING DIFFICULTY THE IP WOULD EITHER GIVE HIM

ADVICE ON THE INTERCOM OR WOULD GET INTO THE COCKPIT TO

ASSIST THE STUDENT. PRESENTLY AT FORT RUCKER INSTRUMENT

TRAINING IS CONDUCTED WITH AN INSTRUCTOR PILOT IN THE COCKPIT

WITH EACH STUDENT. SOME OF THE AUTOMATED TRAINING PROGRAMS

ARE USED, BUT THE IP IS RELIED UPON TO PROVIDE INSTRUCTION

AND GUIDANCE. A DECISION TO FULLY UTILIZE THE AUTOMATED

TRAINING TAPES COULD REDUCE YOUR REQUIREMENTS FOR INSTRUMENT

INSTRUCTOR PILOTS.

(TRANSLATION)

VGT 16 THIS GRAPH SHOWS SOME OF THE CONSIDERATIONS YOU MUST

'COCKPITS WITH EACH DEVICE.

YER STORES AND YOUR TRAINING PLAN. REMEMBER THERE ARE FOUR

.. TAKE INTO ACCOUNT WHEN DECIDING ON YOUR SELECTION OF CONSOLE

VGT OFF

#### (TRANSLATION)

YOU HAVE SPENT A LARGE AMOUNT OF MONEY FOR THE UH-1

FLIGHT SIMULATOR. WE HAVE SEEN THAT IT COST A GREAT DEAL

LESS TO OPERATE THE SIMULATOR THAN IT DOES TO FLY THE UH-1.

THE UH-1 FLIGHT SIMULATOR CAN SAVE YOU A GREAT DEAL OF MONEY

AND THIS SAVINGS CAN ACTUALLY PAY FOR SIMULATOR IF YOU USE

IT IN PLACE OF THE AIRCRAFT WHENEVER POSSIBLE.

# (TRANSLATION)

THE 2B24 IS AN INSTRUMENT FLIGHT TRAINER USED TO HELP

TRAIN PILOTS FOR THE AWARD OF AN INSTRUMENT CERTIFICATION.

TRAINING TEST CONDUCTED AT FORT RUCKER IN THE EARLY 1970'S SHOWED THAT A PROGRAM OF 50 SIMUALTOR TRAINING HOURS WITH SEMESUPPORTING CLASSROOM ACADEMICS, FOLLOWED BY 10 HOURS OF WAR MINSTRUMENT FLIGHT TRAINING IN THE UH-1, PRODUCED AN INSTRUMENT PROFICIENT AVIATOR. PERSONNEL TESTED WERE INITIAL ENTRY STUDENTS. 1RAINING WAS CONDUCTED WITH AN IP IN THE COCKPIT WITH EACH STUDENT. ALTHOUGH FORT RUCKER HAD A SUFFICIENT NUMBER OF DEVICES TO FULLY UTILIZE THEM IN THE INSTRUMENT TRAINING PROGRAM, THESE TEST RESULTS WERE ORIGINALLY REJECTED. MANY INSTRUCTORS AND EXPERIENCED AVIATORS DID NOT UNDERSTAND THE FULL CAPABILITIES OF THIS NEW DEVICE. THE PAST EXPERIENCE WITH THE OLD TRAINER CAUSED MANY NOT TO TRUST ANY SIMULATOR. THEY REMEMBER THAT THE OLD SIMULATOR HAD NOT FELT OR REACTED LIKE A HELICOPTER. THEY FELT THAT NO

SIMULATOR COULD REPLACE THE TRAINING VALUE OF THE ACTUAL.

AIRCRAFT.

#### (TRANSLATION)

THIS GRAPH SHOWS THE PROGRESSION IN THE USE OF THE

UH-1 FLIGHT SIMULATOR AT FORT RUCKER. WE SEE THAT IN THE

EARLY 1970'S WE ADDED IT TO THE TRAINING PROGRAM USING 20

HOURS OF SIMULATOR TIME AND 50 HOURS OF AIRCRAFT TIME.

WE SEE THAT SINCE THAT TIME WE HAVE DECREASED THE NUMBER OF

UH-1 FLYING HOURS AND INCREASED THE NUMBER OF UH-1 FLIGHT

SIMULATOR HOURS. WE PRESENTLY UTILIZE THE SIMULATOR FOR

40 HOURS AND FLY THE UH-1 FOR 20 HOURS IN THE INSTRUMENT

#### (TRANSLATION)

PHASE OF INITIAL ENTRY ROTARY WING TRAINING.

WE CONTINUE TO GAIN EXPERIENCE USING THE UH-1 FLIGHT
SIMULATOR. IP CONFIDENCE IN THE TRAINING CAPABILITY OF

FLIGHT SIMULATOR CAN ONLY BE REALIZED THROUGH COMMAND
EMPHASIS AND A THOROUGH KNOWLEDGE OF THE DEVICE BY EACH
INSTRUCTOR. OPERATORS AND INSTRUCTORS MUST BE WELL TRAINED
IN THE USE OF ALL THE TRAINING FEATURES AVAILABLE IN THE
SIMULATOR.

THE SIMULATOR CONTINUES TO INCREASE. WE ARE APPROACHING

### (TRANSLATION)

VGT OFF

WE HAVE SEEN THAT THERE ARE MANY FACTORS TO BE CONSIDERED

IN INTEGRATING THE UH-1 FLIGHT SIMULATOR INTO YOUR AVIATION

TRAINING PROGRAM. THE PRIMARY FACTOR AFFECTING YOUR

TRAINING PROGRAM IS THE AVAILABILITY OF INSTRUCTOR PILOTS,

PARTICULARLY INSTRUMENT INSTRUCTORS. IN DESIGNING YOUR,

AND THE AUTOMATIC TRAINING PROGRAM MAXIMUM USES OF THE AUTOMATIC TRAINING .

THE SAMEATORUNCTIONS OF THE SIMULATOR MAY REDUCE IP REQUIREMENTS: A CARREST

COMPARISH AT FRANCE OF A TOTAL CO

(TRANSLATION)

VGT 18 THIS IS AN EXAMPLE OF AN INSTRUMENT TRAINING PROGRAM WHICH

COULD BE CONDUCTED DURING INITIAL ROTARY WING TRAINING OR FOR

INITIAL INSTRUMENT CERTIFICATION. THIS TRAINING WOULD FOLLOW

PRIMARY FLIGHT TRAINING IN THE OH-23 (USE POINTER) AND WOULD

BE CONDUCTED PRIOR TO TRANSITION INTO THE UH-1.

### (TRANSLATION)

DURING THE FIRST PHASE THE STUDENT WOULD "FLY" THE

TRAINER WITH AN IP ACTING AS INSTRUCTOR. THIS WOULD ACQUAINT

THE STUDENT WITH THE OPERATION OF THE TRAINER AND WOULD ALLOW

HIM TO DEVELOP A FEEL FOR THE TRAINER.

(TRANSLATION)

AFTER THE STUDENT HAS BECOME COMFORTABLE WITH THE

TRAINER HE WOULD CONTINUE ACTUAL INSTRUMENT TRAINING USING

THE AUTOMATED TRAINING PROGRAMS WITH A FELLOW STUDENT

ACTING AS CO-PILOT IN THE COCKPIT. (USE POINTER)

### (TRANSLATION)

MONITOR THE PROGRESS IN THE 4 COCKPITS AND PROVIDE ASSISTANCE

AS NECESSARY. THIS SIMULATOR TRAINING WOULD BE CONDUCTED IN

CONJUNCTION WITH CLASSROOM ACADEMIC TRAINING. IN THIS MANNER

THE TWO MODES OF TRAINING WOULD REINFORCE EACH OTHER. THE

SIMULATOR WOULD PROVIDE PRACTICE WITH LEARNING CUES PROVIDED

BY THE TRAINING TAPE.

### (TRANSLATION)

THE TWC STUDENTS IN THE COCKPIT WOULD ALTERNATE BETWEEN

BE CLEARLY OUTLINED AND THE ACADEMIC INSTRUCTION SHOULD

COORDINATION. IN THE US ARMY WE FIND THAT THE STUDENTS

BECOME DEPENDENT ON THE IP. TOO OFTEN THE STUDENT WILL WAIT

FOR THE IP TO TELL HIM WHAT TO DO OR WILL HESITATE, WAITING

FOR IP APPROVAL. THE UH-1 FLIGHT SIMULATOR USING STUDENTS

AS PILOT AND CO-PILOT, CAN ELIMINATE THIS PROBLEM AND STILL

PROVIDE SAFE COST EFFECTIVE TRAINING.

PILOT AND CO-PILOT DUTIES. THE CO-PILOT DUTIES SHOULD

### (TRANSLATION)

AFTER THE STUDENT HAS MASTERED THE PROGRAMS IN THE COMPUTER HE CAN THEN BE FLIGHT CHECKED IN THE UH-1 (USE POINTER). TEST SHOWED THAT BECAUSE OF THE GREAT SIMILARITY BETWEEN THE UH-1 FLIGHT SIMULATOR AND THE UH-1 THIS TRANSFER

### OF TRAINING CAN BE ACCOMPLISHED WITH LITTLE DIFFICULTY.

### (TRANSLATION)

THESE AUTOMATED PROGRAMS IN OUR INSTRUMENT TRAINING. COMPLETE

TESTING AND RESEARCH ON THE USE OF THE AUTOMATED TRAINING

FEATURES HAS NOT BEEN CONDUCTED. THIS SAMPLE TRAINING

PROGRAM HAS NO HOURS INDICATED FOR THE DIFFERENT PHASES

BECAUSE WE HAVE NO DATA AVAILABLE TO SUPPORT SUCH FIGURES.

VGT OFF

### (TRANSLATION)

THE AUTOMATED TRAINING PROGRAM IS ONE OF MANY TRAINING
FEATURES AVAILABLE IN THE UH-1 FLIGHT SIMULATOR WHICH IS
NOT USED TO ITS FULL POTENTIAL. A MAIN REASON ALL THE
FEATURES ARE NOT UTILIZED IS THAT INSTRUCTORS ARE NOT AWARE
OF ALL THE CAPABILITIES OF THE MACHINE. THIS INSTRUCTIONAL

### (TRANSLATION)

YOUR UTILIZATION OF THE SIMULATOR WILL BE A MAJOR

TRAINING DEVELOPMENT EFFORT. YOU MUST ANALYZE YOUR TRAINING

NEEDS AND THEN DEVELOP YOUR TRAINING PROGRAM UTILIZING THE

UH-1 FLIGHT SIMULATOR TO ITS FULLEST POSSIBLE EXTENT.

FIRST LIST THE TASK YOU WANT YOUR PILOTS TO PERFORM.

COMPARE THIS LIST WITH THE CAPABILITIES OF THE SIMULATOR.

WHEN THE SIMULATOR CAN BE USED TO TRAIN A TASK, USE

WHEN THE SIMULATOR CAN BE USED TO TRAIN A TASK, USE

WHEN THE SIMULATOR CAN BE USED TO TRAIN A TASK, USE

AND GENARALIZED OF THE CHANGESTON OF THE PROPERTY OF A CARRELY

UTILIZING THE 2B24 AND ADDITIONAL SIMULATORS THAT ARE

PRESENTLY BEING DEVELOPED. WITH YOUR PURCHASE OF THE

UH-1 FLIGHT SIMULATOR, YOU HAVE OBTAINED A TREMENDOUS

TRAINING DEVICE. HOW YOU USE IT WILL GREATLY AFFECT YOUR

TRAINING PROGRAM. THE UH-1 FLIGHT SIMULATOR OFFERS ROKA

AVIATION THE ABILITY TO CONDUCT BETTER TRAINING, AT LESS

COST, USING FEWER INSTRUCTORS WITH GREAT SAFETY FOR YOUR

FLIGHT TRAINING CREWS.

(TRANSLATION)

# GENTLEMEN, THIS CONCLUDES OUR DISCUSSION OF THIS

ISSUE. I AM AVAILABLE FOR QUESTIONS AS YOU DISCUSS

THIS ISSUE.

(TRANSLATION)

SCRIPT: PUBLICATIONS AND AIDS

ASE VGT IN THE CONGENTLEMENT OUR TOPIC FOR DISCUSSION AT THIS TIME OF

THE HATHERS ISTRAINING PUBLICATIONS AND AIDS.

### (TRANSLATION)

VGT 2 TODAY THE AMOUNT AND KINDS OF TRAINING MATERIALS ARE EXPANDING RAPIDLY IN ORDER TO KEEP PACE WITH NEW TACTICS, DOCTRINE AND EQUIPMENT. THEY INCLUDE FIELD MANUALS (FM), TECHNICAL MANUALS (TM), ARMY TRAINING AND EVALUATION PROGRAMS (ARTEP), VIDEO TAPE, MOVIES AND TRAINING EXTENSION COURSE (TEC) LESSONS, AND SIMULATORS TO MENTION A FEW. ALL THESE MATERIALS CAN BE USED FOR REFERENCE. SOME OF THESE MATERIALS, SUCH AS THE TEC LESSON, ARE TRAINING TOOLS WHICH FOLLOW A STEP BY STEP TEACHING

PROCEDURE. AS NEW AND IMPROVED EQUIPMENT AND TECHNIQUES

ARE INTRODUCED, TRAINING PUBLICATIONS AND AIDS MUST BE .

PRODUCED AND REVISED TO MEET THE NEW TRAINING REQUIREMENTS.

TRANSLATION)

TO ASSIST A PERSON IN LEARNING OR PERFORMING HIS DUTIES.

THEY ARE A PRODUCT OF THE INSTRUCTIONAL SYSTEMS DEVELOPMENT

(ISD) PROCESS. IT IS IMPORTANT TO REMEMBER THE PHILOSOPHY

OF THE ISD PROCESS IS TO IDENTIFY THE TASK AND THEN DIRECT
ALL EFFORTS AT MEETING THE SPECIFIC OBJECTIVES OF THAT
TASK.

### (TRANSLATION)

VGT OFF

THE INTRODUCTION OF NEW EQUIPMENT AND NEW TACTICS

REQUIRES THAT TRAINING MATERIALS BE PRODUCED AND REVISED.

WITH THE RAPID IMPROVEMENT OF ROKA AVIATION, YOUR

REQUIREMENTS FOR TRAINING MATERIALS ARE GREAT. YOU WILL

NEED TRAINING MATERIALS IN BOTH YOUR AVIATION SCHOOLS AND
YOUR AVIATION UNITS.

# THE PROPERTY OF THE PROPERTY (TRANSLATION)

IS TO IDENTIFY THE NEED. IN THE CASE OF THE NEW 500 M-D
HELICOPTER THIS IS QUITE EVIDENT. YOU NEED TRAINING
MATERIALS TO TEACH STUDENTS ABOUT THIS NEW HELICOPTER.
BUT FIRST WE MUST DETERMINE WHO THE STUDENTS ARE AND
WHAT THEY NEED TO KNOW.

### (TRANSLATION)

VGT 4 OUR PAST EXPERIENCE TELLS US THAT WE WILL HAVE TO

TRAIN MECHANICS TO MAINTAIN THE HELICOPTER. ENGINE,

ARMAMENT, AVIONICS AND AIRFRAME MECHANICS AS WELL AS

### CREW CHIEFS NEED TO BE TRAINED.

### TO THE REPORT OF THE PARTY OF T

UNDERSTAND ITS CAPABILITIES.

### (TRANSLATION)

MUST BECOME AWARE OF THE TACTICAL EMPLOYMENT OF THE

AIRCRAFT. THEY MUST HAVE A COMMON UNDERSTANDING OF

HOW THEY WILL COORDINATE TO USE THE HELICOPTER TO INCREASE

THE COMBAT EFFECTIVENESS OF THE COMBINED ARMS TEAM.

### (TRANSLATION)

VGT 7 WHEN WE THINK ABOUT THE DIFFERENT PEOPLE WHO ARE

INVOLVED WITH THE USE OF THE 500 M-D WE CAN SEE THE NEED

FOR MANY NEW TRAINING MATERIALS. TO MATERIALS WILL

NOT BE WRITTEN ABOUT THE HELICOPTER, BUT THEY WILL BE

WRITTEN ABOUT THE JOBS PEOPLE DO WITH THE HELICOPTER.

### (TRANSLATION)

TRAINING MATERIALS ARE WRITTEN TO ASSIST A VFT OFF PERSON TO LEARN AND PERFORM HIS DUTIES AND TASKS. TRAINING MATERIALS SHOULD BE DEVELOPED AFTER A THOROUGH ANALYSIS OF THE JOB AND TASK. WHEN PREPARING TRAINING MATERIALS, CAREFUL RESEARCH IS REQUIRED TO DETERMINE WHO THE MATERIAL IS BEING PREPARED FOR AND WHAT HE NEEDS TO KNOW. FOR EXAMPLE THE ENGINE MECHANIC WOULD NEED TO KNOW HOW TO ADJUST THE FUEL CONTROL. HE WOULD NOT NEED TO KNOW ALL THE DETAILED THEORY OF OPERATION OF THE FUEL CONTROL. A STEP BY STEP PROCEDURE FOR ADJUSTING THE

MECHANIC A CLEAR, EASILY UNDERSTOOD PROCEDURE TO USE IN PERFORMING THIS TASK. IT DOES NOT WASTE TIME IN FIGURE 11 PRESENTING INFORMATION HE DOES NOT NEED TO KNOW AND WHICH I MAY CONFUSE HIM. BY CONDUCTING CAREFUL RESEARCH OF THE TASK, THE SCOPE OF THE MATERIAL CAN BE LIMITED TO ESSENTIAL INFORMATION. THIS ALLOWS THE STUDENT TO SPEND HIS TIME ONLY ON THE SUBJECTS REQUIRED TO PERFORM HIS DUTIES. IT ALSO ELIMINATES THE NEED OF THE STUDENT TO INTERPRET HIS JOB REQUIREMENTS. THEY ARE CLEARLY LAID OUT FOR HIM.

FUEL CONTROL SHOULD BE PRESENTED. THIS GIVES THE

### (TRANSLATION)

IT IS ALSO IMPORTANT TO KEEP A CLEAR VIEW OF WHO
THE MATERIAL IS BEING PREPARED FOR. IN THE EXAMPLE OF

THE ENGINE MECHANIC IT IS EVIDENT THAT THE INSTURCTION WOULD BE WRITTEN IN TECHNICAL LANGUAGE. RESEARCH MUST THE HER HOLD THE MATERIAL THE REOPLE WHO ARE SOING TO USE THE MATERIAL TO HOLE WHETE TO USE THE MANUAL. CARE MUST BE TAKEN TO INSURE TRAINING MATERIALS ARE WRITTEN WITH WORDS THAT ARE EASILY UNDERSTOOD BY THE INTENDED USER. IN ANOTHER EXAMPLE, A FIELD MANUAL USED TO DEVELOP TACTICS AND COORDINATION BETWEEN AIRCREWS AND GROUND COMMANDERS MUST BE WRITTEN IN TERMS THEY BOTH UNDERSTAND. FOR EXAMPLE, ARTILLERYMEN USE THE MIL TO MEASURE ANGLES AND AVIATORS USE DEGREES. MANUALS MUST BE WRITTEN SO

### (TRANSLATION)

BOTH CAN UNDERSTAND.

TRAINING EXTENSION COURSE (TEC) LESSONS ARE AN

EXCELLENT EXAMPLE OF A TRAINING SYSTEM APPROACH TO TRAINING PUBLICATIONS: YOU SEE A BESELER CUE/SEE - ON PER GEOMETRUP FOR OUR USE (POINT TO MACHINE). THESE MACHINES THESE ARE SELF CONTAINED LESSONS WHICH TEACH SOLDIERS TO PERFORM SPECIFIC TASKS REQUIRED BY THEIR JOBS. THIS IS MORE THAN A TV SET OR A TAPE PLAYER. IT ALLOWS THE SOLDIER TO STOP THE LESSON WHILE HE COMPLETES A PROBLEM OR TO GO BACK AND REVIEW MATERIAL HE DID NOT UNDERSTAND. IN THIS WAY HE LEARNS AT HIS OWN PACE WITHOUT DELAYING OTHER STUDENTS. THE LESSONS ALSO INCLUDE A PRE-TEST. BY TAKING THIS PRE-TEST A SOLDIER CAN DETERMINE WHAT HE ALREADY KNOWS ABOUT THE MATERIAL. IF THE PRE-TEST SHOWS THAT HE KNOWS THE MATERIAL WELL HE COULD THEN GO ON TO THE NEXT LESSON AND

SAVE TIME. LESSONS CAN BE EASILY PRODUCED ON ANY

SUBJECT. THE MOST IMPORTANT AND DIFFICULT TASK IS

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L

### (TRANSLATION)

AS YOU CAN SEE (SHOW DISPLAY OF PUBLICATIONS) THERE

ARE MANY AVIATION MANUALS WHICH HAVE BEEN DEVELOPED.

WHEN YOU LOOK THROUGH THESE MANUALS YOU WILL NOTICE THE

USE OF COLOR AND PICTURES AS WELL AS THE CLEAR FORMAT

USED. THESE MANUALS HAVE BEEN WRITTEN BECAUSE NEW TACTICS

AND DOCTRINE HAVE BEEN DEVELOPED. TRAINING MATERIALS MUST

BE CONSTANTLY REVIEWED AND ANALYZED TO INSURE THEY ARE

CURRENT AND ARE MEETING THE TRAINING OBJECTIVES. AS

CHANGES IN DOCTRINE, TACTICS, AND EQUIPMENT OCCUR,

CHANGES TO PUBLICATIONS AND TRAINING MATERIALS MUST

100 Description BE PREPARED AND DISTRIBUTED. THROUGH CONSTANT EFFORT

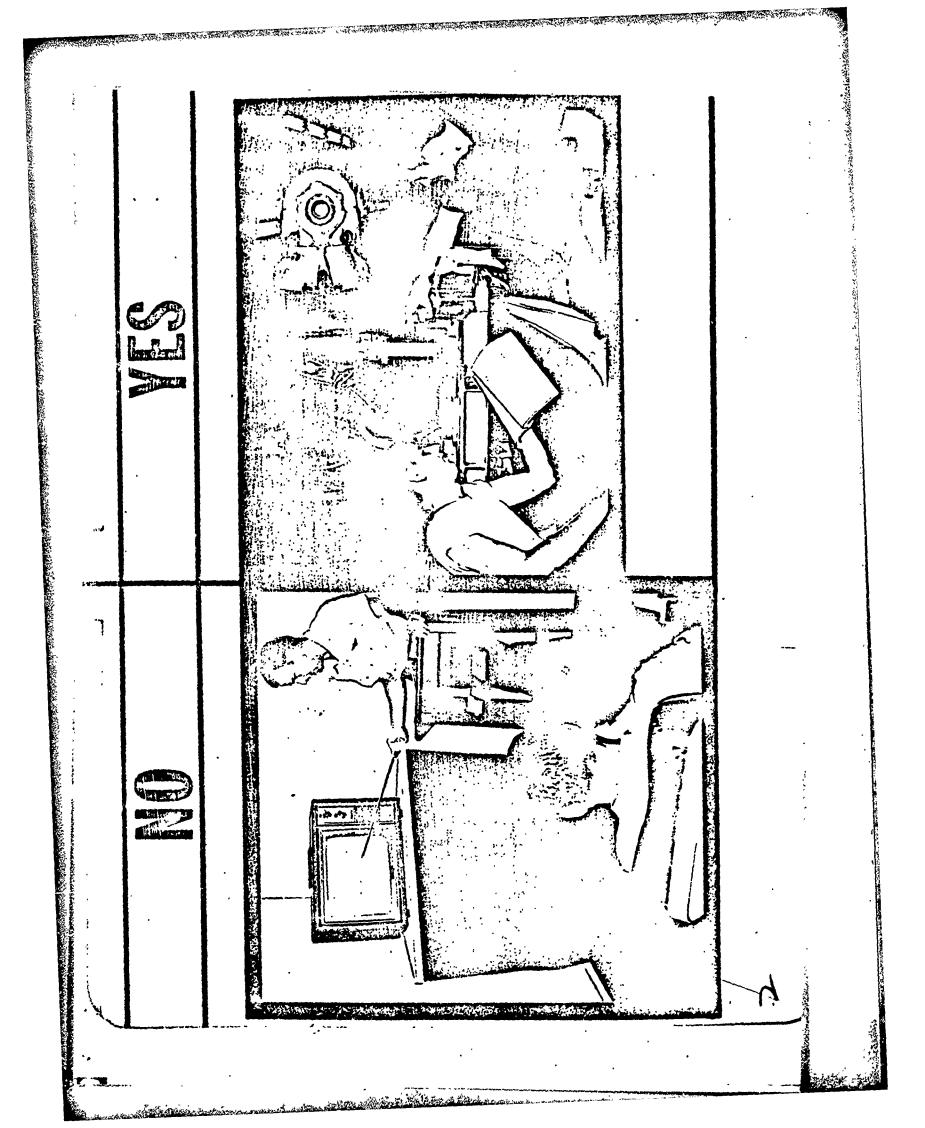
WE CAN INSURE THAT THE UNITS IN THE FIELD HAVE THE MOST

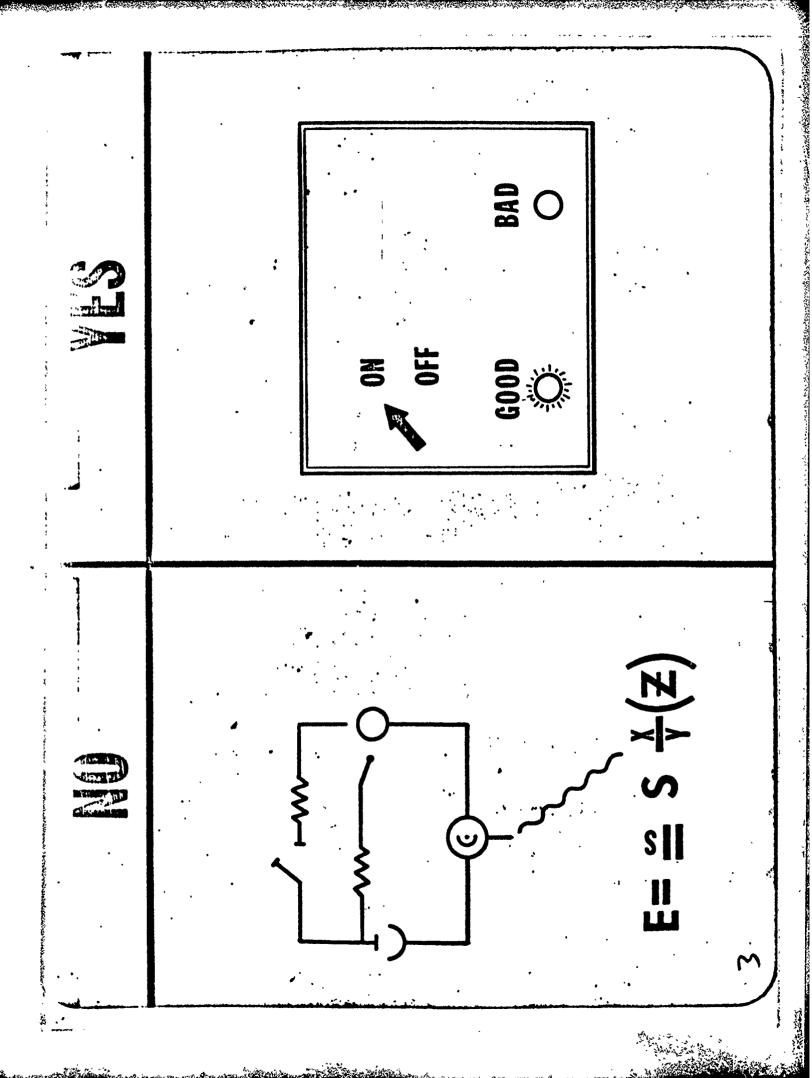
UP-TO-DATE TRAINING MATERIALS POSSIBLE.

(TRANSLATION)

WE WILL NOW LOOK AT THE MATERIALS ON DISPLAY.

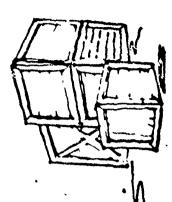
(TRANSLATION)



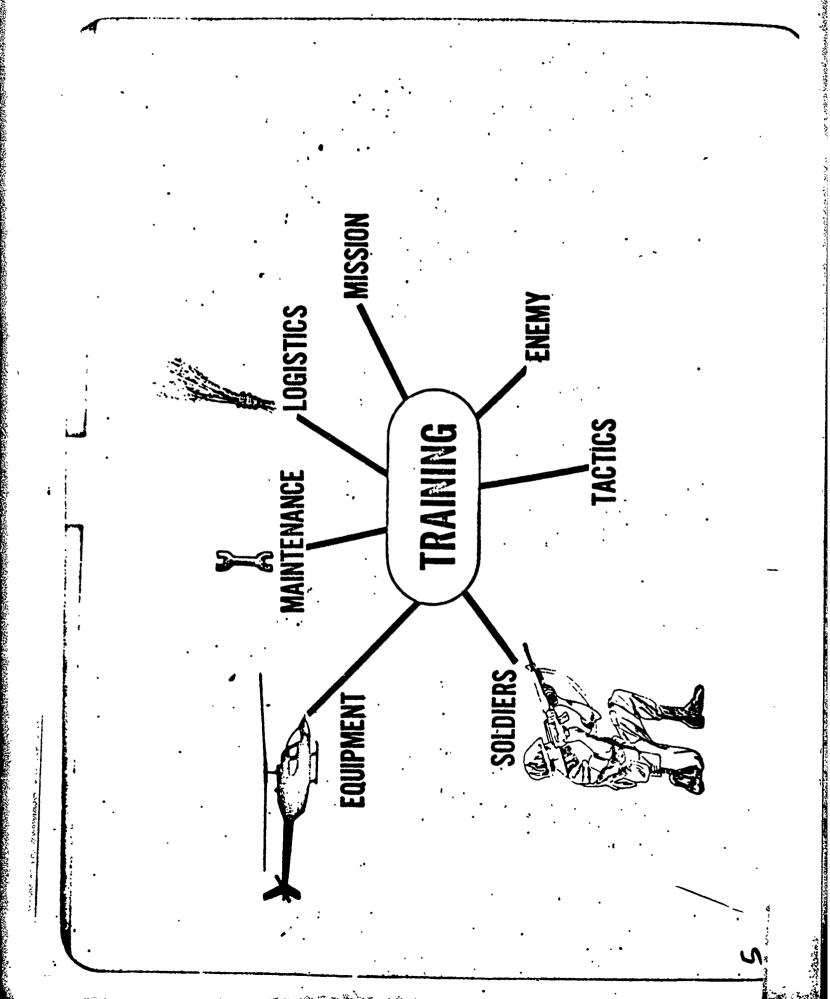


HARTENANCE

PILOT



Massion Plan



# Z Z O

SYSTEMS

E O D M



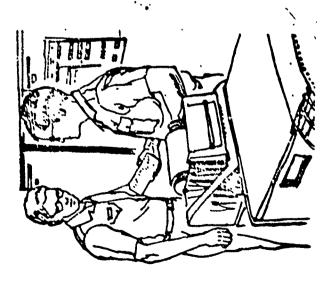


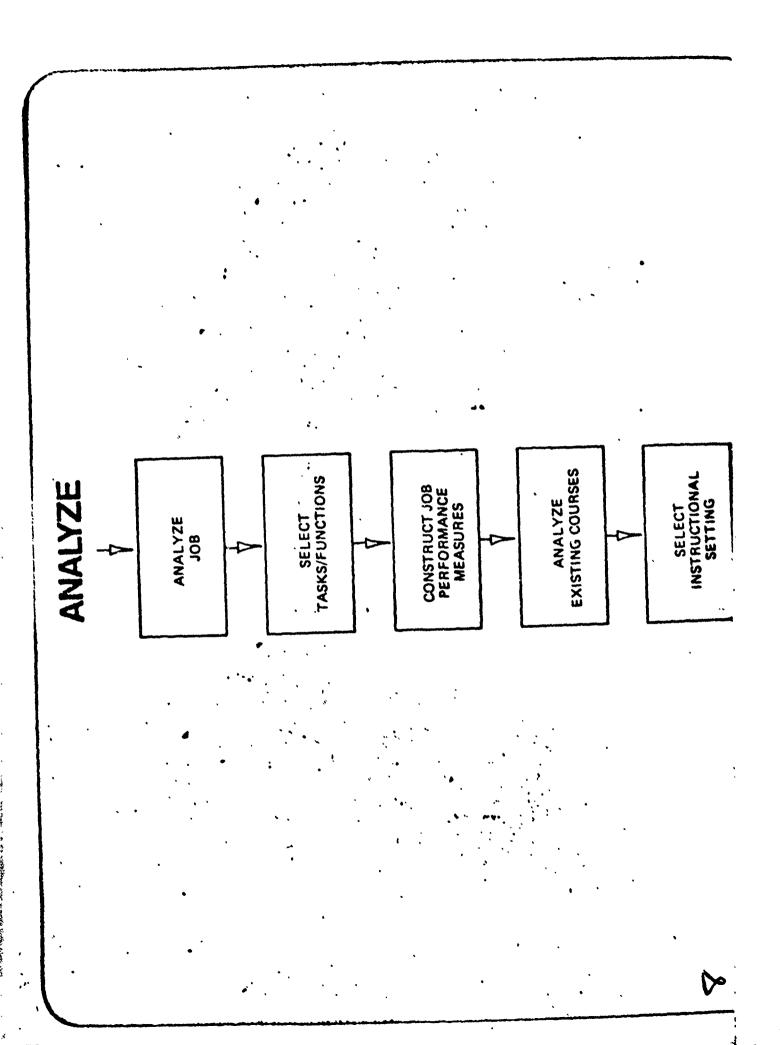
DEVELOP

TEACH

PERFORMANCE SCHOOL TEACH JOB

EVALUATE
TRAINING
RESULTS
IN THE UNIT

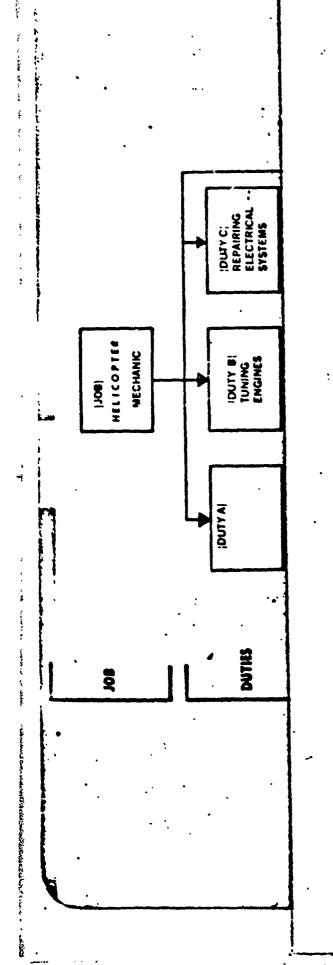




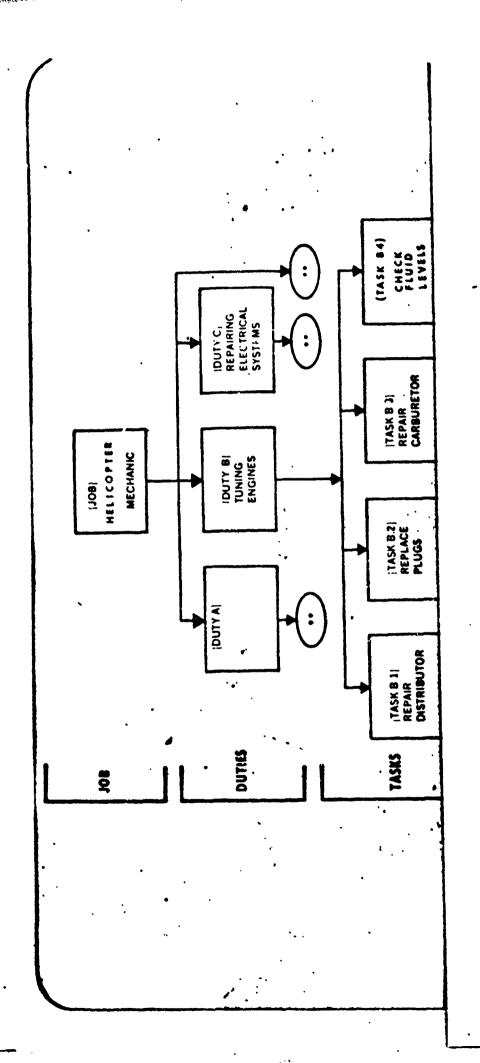
HELICOPTER MECHANIC <u>8</u>0

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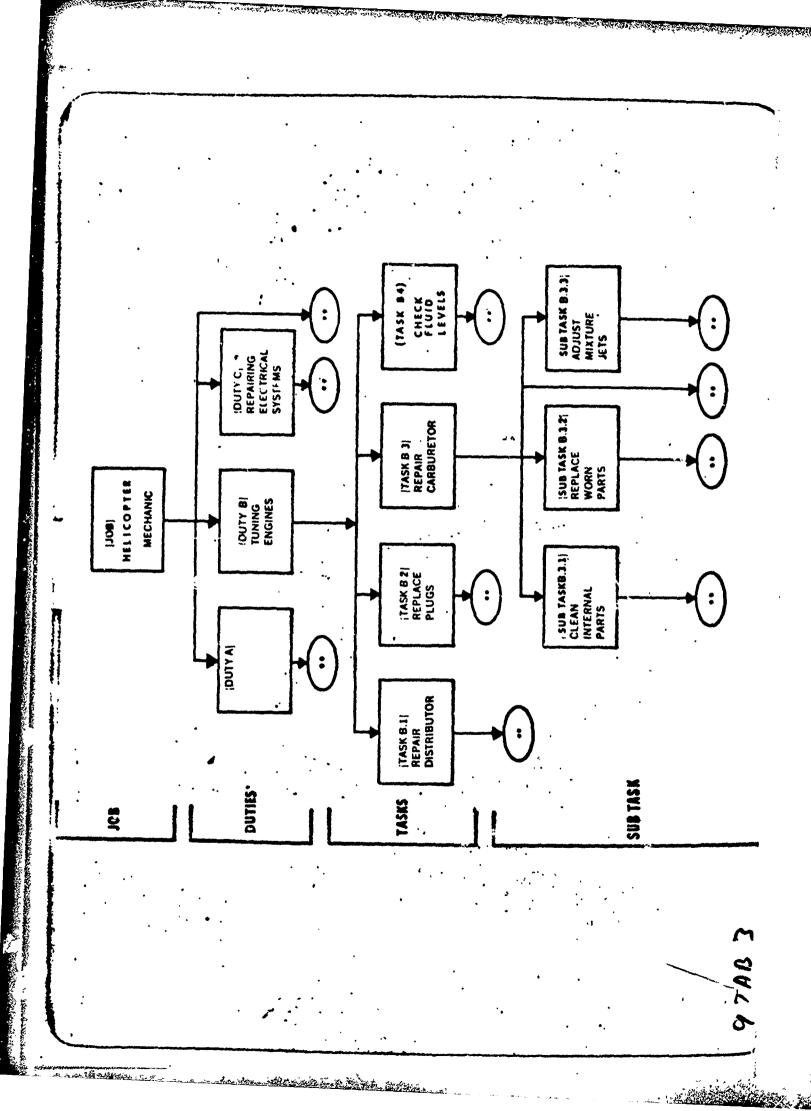


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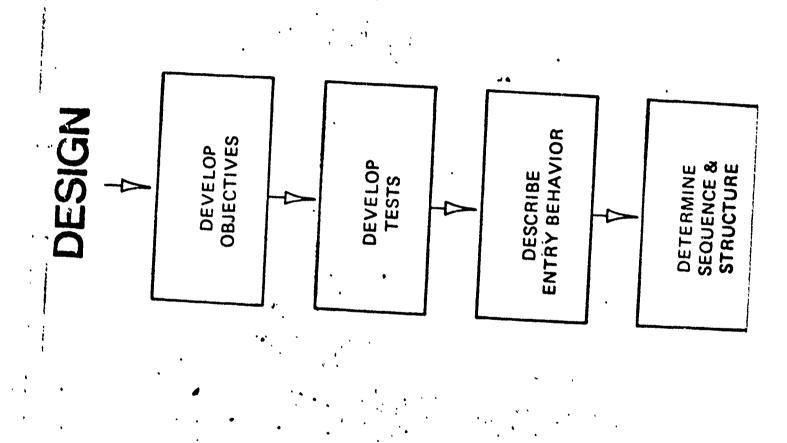


9/TAB 2

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TASK:

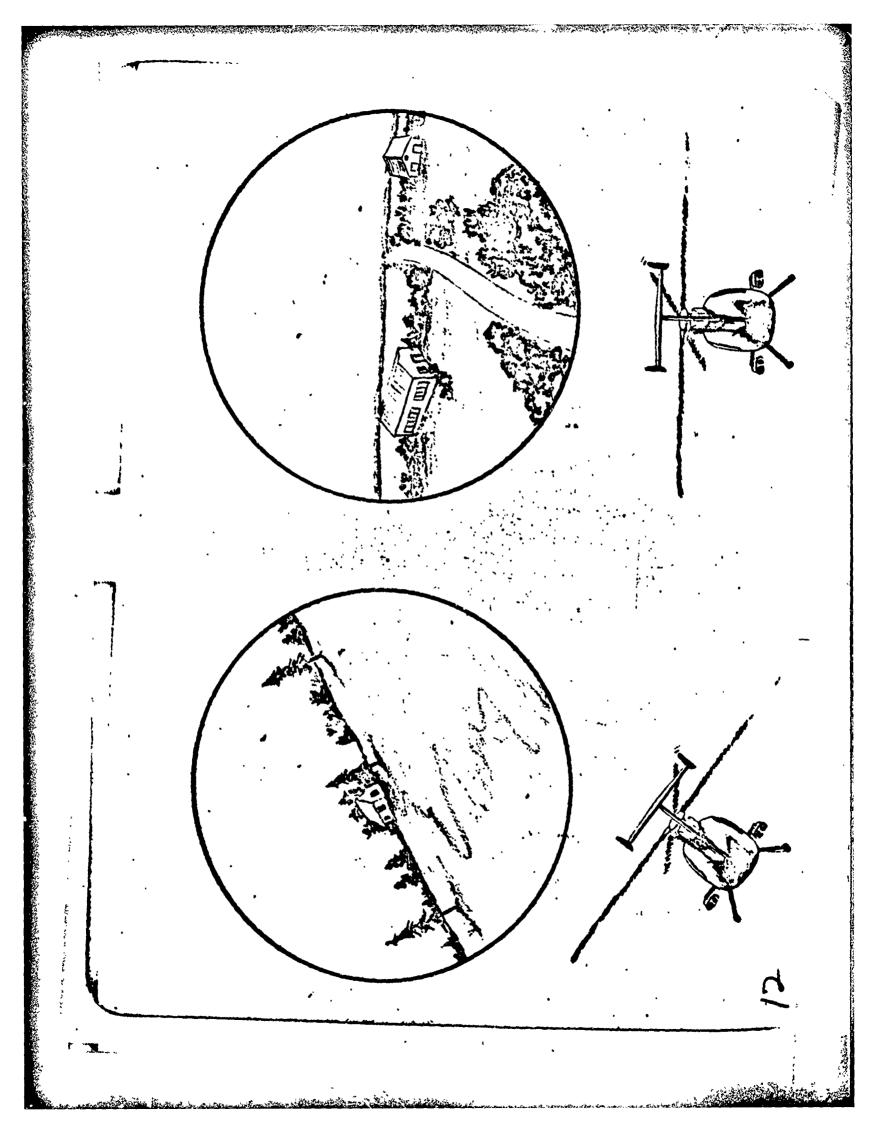
REPLACE SPARK PLUGS

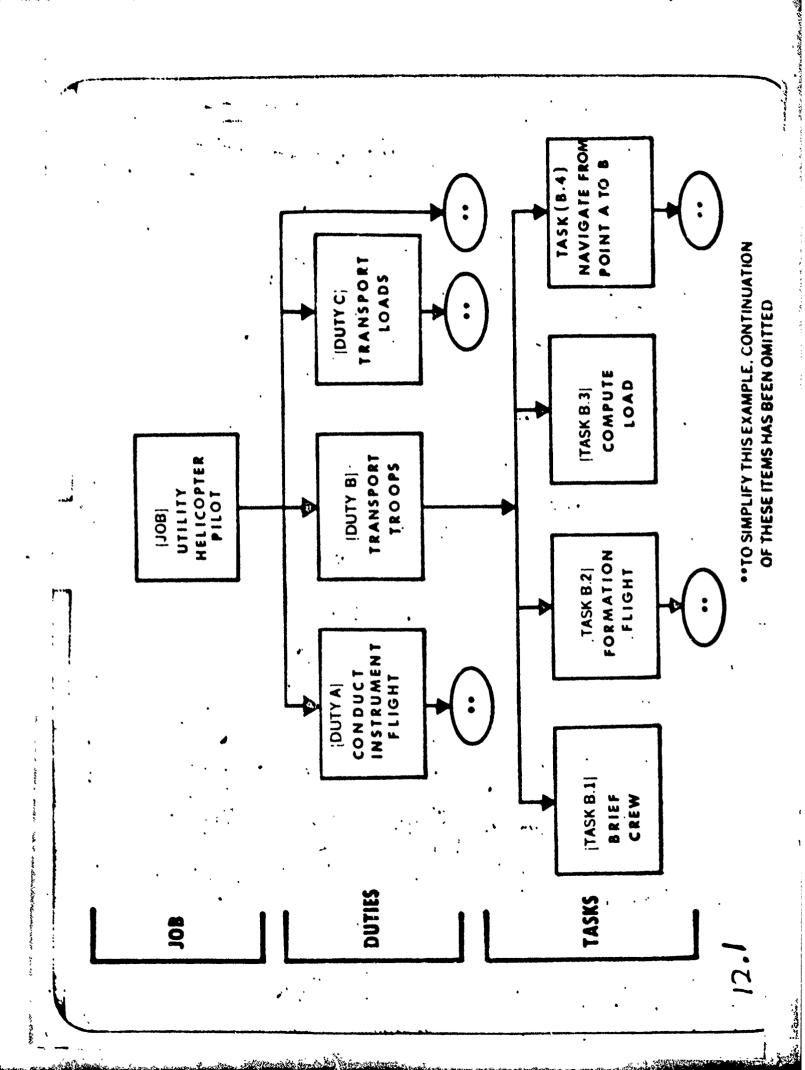
CONDITIONS:

USING INSTRUCTION BOOKLET ON THE AIRCRAF USING A GENERAL MECHANICS TOOL KIT USING A SET OF NEW SPARK PLUGS

STANDARDS:

SPARK PLUGS TORQUED 10 160 in/15s Magneto Check on Each Magneto





Learning Analysis

# SPECIFY LEARNING EVENTS/ACTIVITIES PECIFY INSTRUCTION MANAGEMENT PLAN & DELIVERY SYSTEM REVIEW/SELECT EXISTING MATERIALS PEVELOP INSTRUCTION VALIDATE INSTRUCTION

LEARNING

PROFICIENCY

TIME

LEARNING CURVE

PROFICIENCY 1

LEARNING

FORGETTING

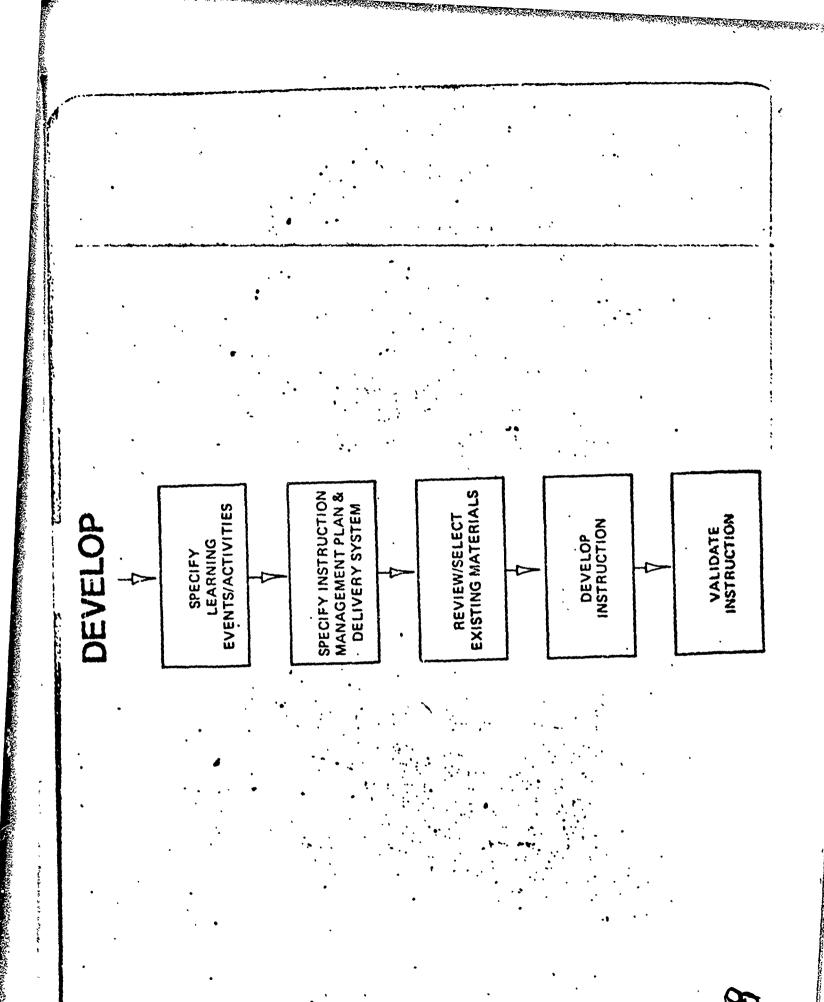
LEARNING AND FORGETTING CURVE

# THE OBJECTIVE INFORM THE STUDENT

PROVIDE FOR ACTIVE PRACTICE

AND PROMPT PROVIDE GUIDANCE

PROVIDE FEEDBACK TO THE STUDEN



### IMPLEMENT

IMPLEMENT
INSTRUCTIONAL
MANAGEMENT PLAN

CONDUCT

### CONTROL

CONDUCT INTERNAL EVALUATION

CONDUCT EXTERNAL EVALUATION

REVISE SYSTEM

TECHNOLOGY RESEARCH DESIGN DEVELOP MPLEMENT CONTROL FREDUCT FIELD EXPERIENCE

EVALUATION PROGRAM ARRIV

AIRCREW TRAINING WANUAL

#### MIMIMIMS FLIGHT

AR 95-1

18 OCTOBER 1973

DNLY THOSE TACTICAL FLIGHT MANEUVERS ESSENTIAL

TO MAINTENANCE OF BASIC PILOT SKILLS

HOURS

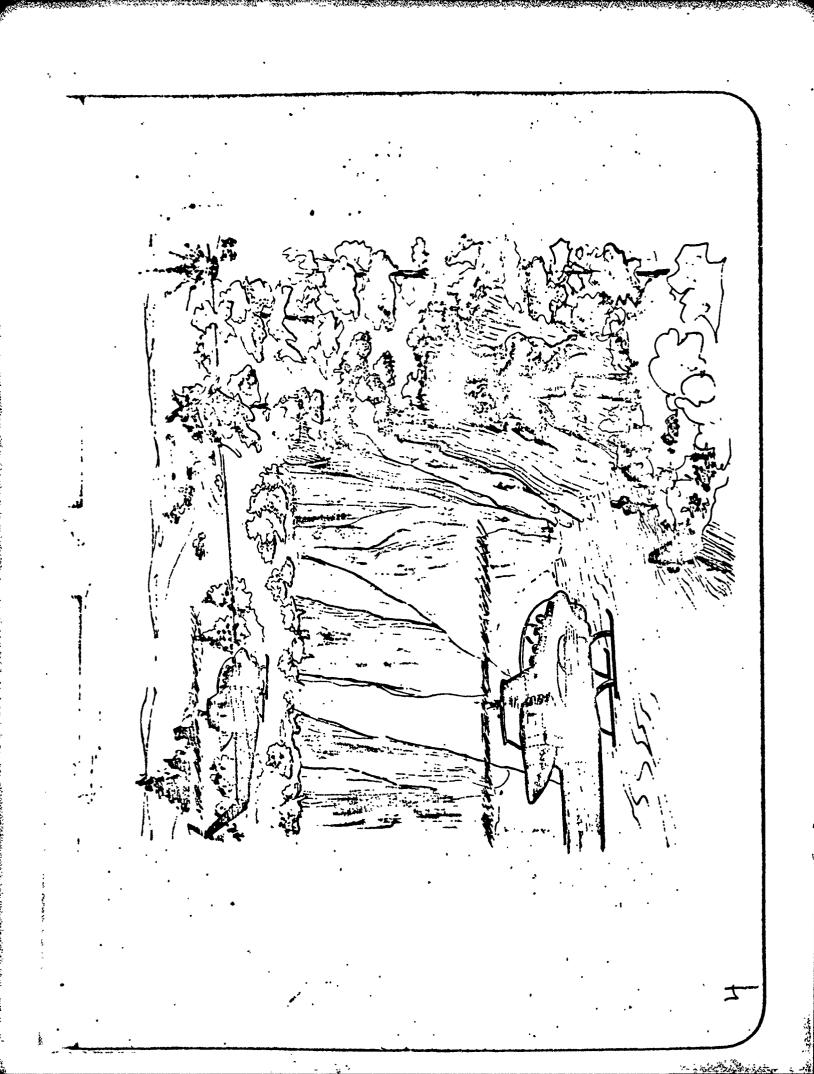
SEMIANNUAL

MINIMUMS MAXIMUMS INSTRUMENT

TACTICAL

## TRAINING AND EVALUATION

TASK	CONDITIONS	TASK CONDITIONS TRAINING/EVALUATION STANDABLE		RATING
			D S	REMARKS
	•			
,				
Acquire and engage tergate naing	Terrain is suitable for howering fire. DA/sross sireraft and show	Aircraft remaiss masked until ready to engage.		
bevering fire.	allows horecing out of ground effect. Target handoff is complete.	Attack crew howers aircraft up only enough to acquire and confirm target, and unmasks aircraft in less than 5 seconds. Acquisition time does not exceed 60 seconds.		`,
		Attack crew engages target. If TOW missile is fired (or simulated), time of flight is calculated at 200m/sec (e.g., time of flight for 3,000m is 15 sec). If other subsystems are fired, time of engagement is no longer than 5 seconds per subsystem.		
,	· ••	Once target is hit or rounds impact, attack crew remains in less than 5 seconds and moves to alternate position.		



# TACTICAL/SPECIAL TASKS

5001	PERFORM	TEBUM FLOH	ERRAIN FLIGHT MISSION PLANNING	4
5005	PERFORM	TERRAIN FLIGHT NAVIGATION	NAVIGATION	4
*5003		LOW-LEVEL FLIGHT		4
5004		Composer Fight		<b>T</b>
5002				~
5006	PERFORM	MASKING AND UNMASKING	INMASKING	4
		The second secon	All the second of the second o	

PERFORM HOVER OUT-OF-GROUND EFFECT (OGE) 5008

In a UH, during day or night, VMC, with or without CONDITIONS

NVG.

#### STANDARDS:

- . Maintain heading ± 10 degrees.
- rotor the tail. Maintain altitude of obstacles.
- Decelerate to desired airspeed or full selected location + 50 feet.

Initially increase collective to maintain altitude full stop while adjusting collective to maintain altitude of the tail of tail rotor. Apply aft cyclic to slow to the desired airspeed or rotor. Maintain heading with pedais DESCRIPTION:

#### REFERENCES:

FM 1-1

FM 1-51

Operator's Manual

CONCEPT OF TRAINING IN UNITS OPN MSN STANDARDS ATM / ARTEP, CONDUC (TRAINER) TRAIN TO (TRAINING MGR & TRAINER) ARTEP RESOURCES OBJECTIVES TRAINING MGRI **EVALUATE** PROVIDE CONDUCT (TRAINING MGR) MISSIONS TRAINING ANALYZE SELECT

### TACTICAL/SPECIAL TASKS

5005 PERFORM NOE FLIGHT

PERFORM MASKING AND UNMASKING 5006

PERFORM NOE QUICKSTOP/DECELERATION 5007 PERFORM HOVER OUT-OF-GROUND EFFECT (OGE) 5008

PERFORM TERRAIN FLIGHT TAKEOFF 5009 PERFORM TERRAIN FLIGHT APPROACH 5010

5011 PERFORM FM RADIO HOMING

5012 PERFORM HIGH RECONNAISSANCE

* ESSENTIAL TASK

### TACTICAL/SPECIAL TASKS

# :	200	5 PERFORM NOE FLIGHT	NOE FLIG			,	
* ;	2006	PERFORM	MASKING	AND	16 PERFORM MASKING AND UNMASKING	-	

UNSA

PERFORM NOE QUICKSTOP/DECELERATION 2007

PERFORM HOVER OUT-OF-GROUND EFFECT (OGE) 5008

PERFORM TERRAIN FLIGHT TAKEOFF 5009

PERFORM TERRAIN FLIGHT APPROACH

PERFORM FM RADIO HOWING 5011

PERFORM HIGH RECONNAISSANCE 5012

**ESSENTIAL TASK** 

Property and ability to the second

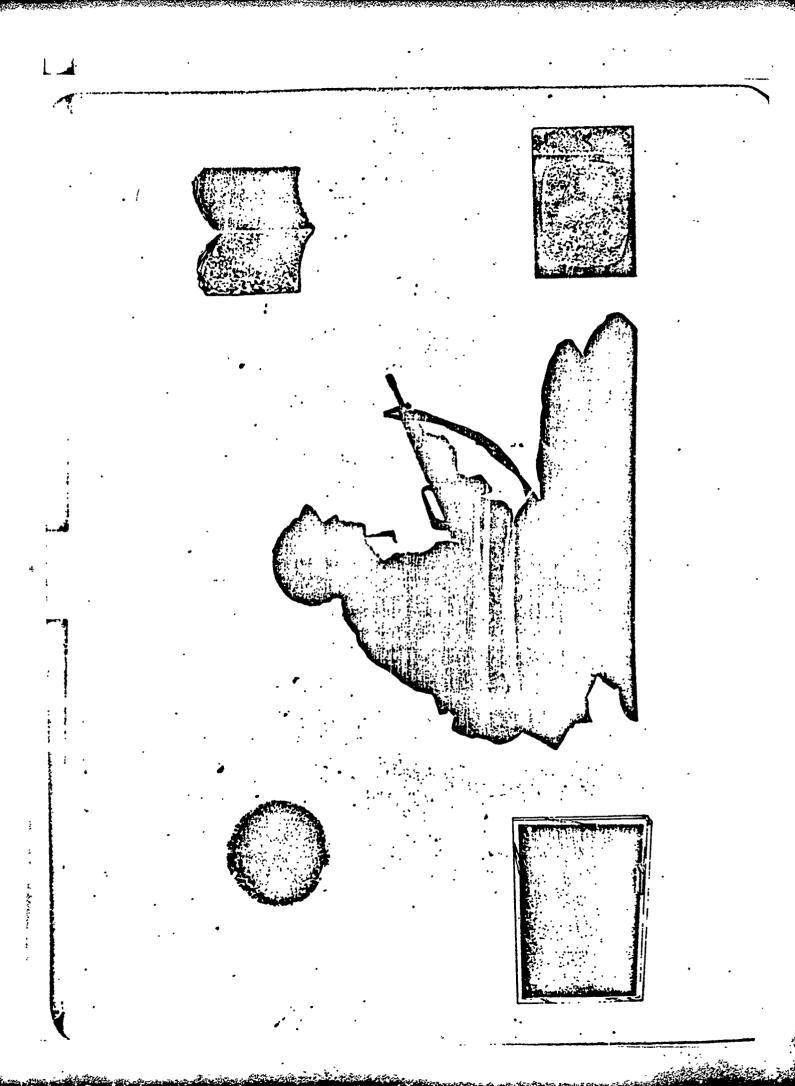
*	5005	PERFORM	NOE FLIGHT	SAT	•
*	2006	PERFORM	MASKING AND UNMASKING	SAT	
*	5007	PERFORM	HOE QUICKSTOP/DECELERATION	:	UNSAT
*	5008	PERFORM	HOVER OUT-OF-GROUND EFFECT (OGE)	•	UNISAT
*	5009	PERFORM	TERRAIN FLIGHT TAKEOFF	SAT	
*	5010	PERFORM	TERRAIN FLIGHT APPROACH	SAT	·
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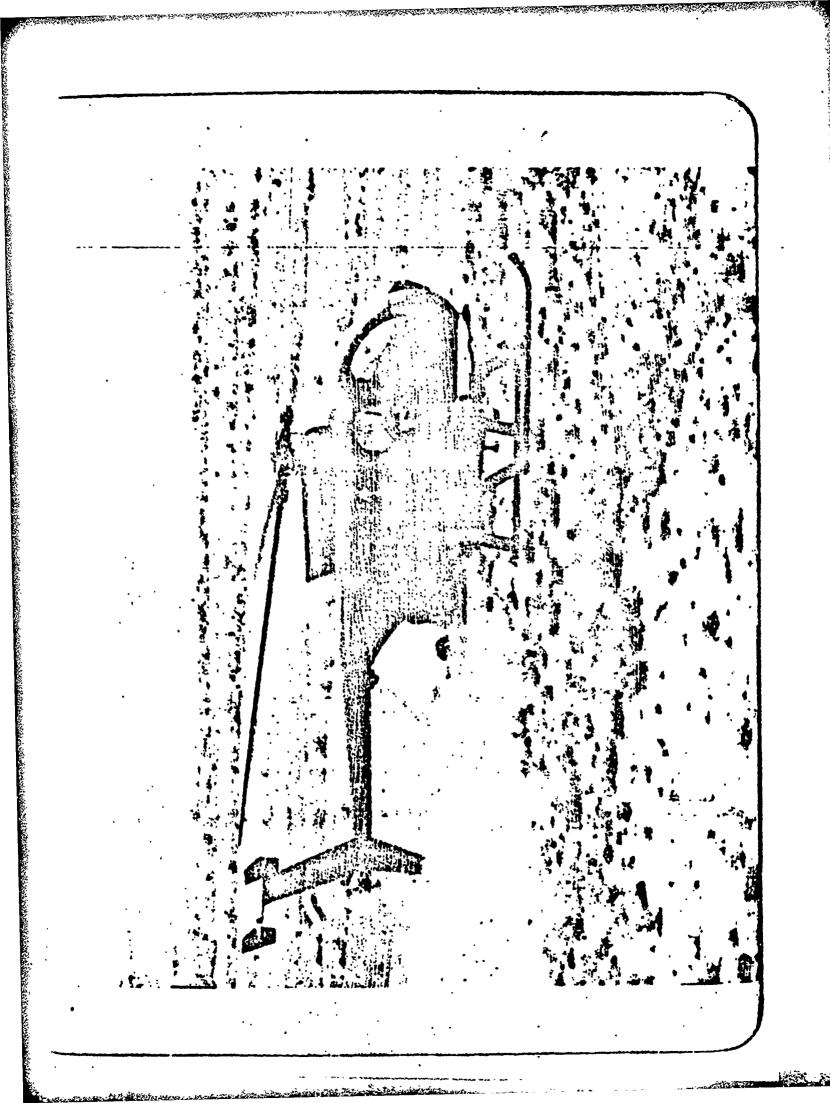
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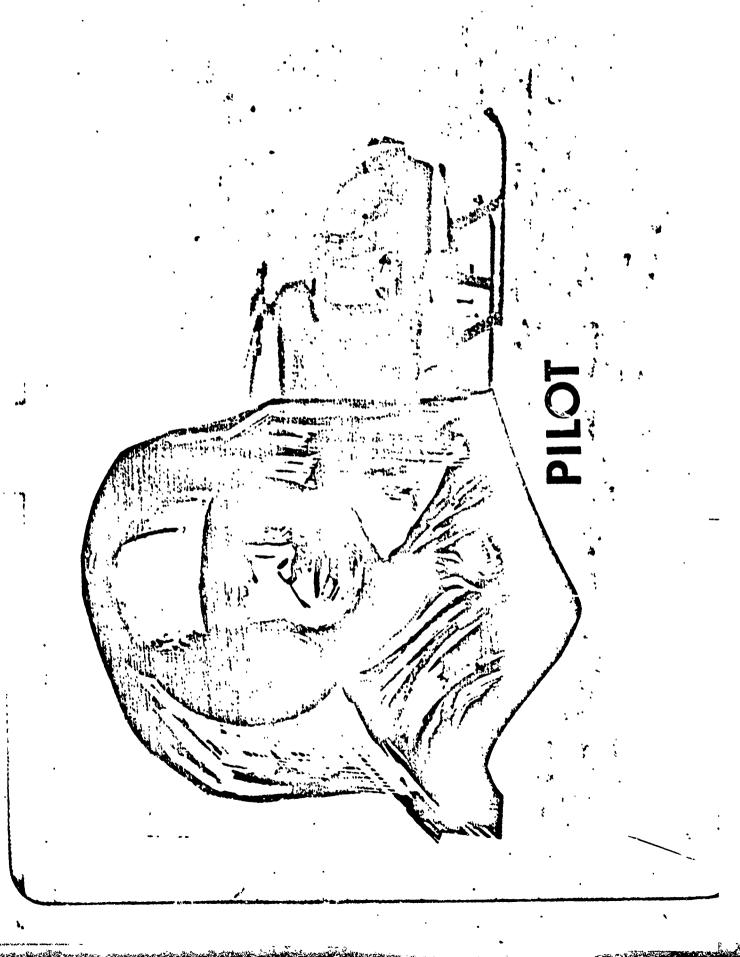
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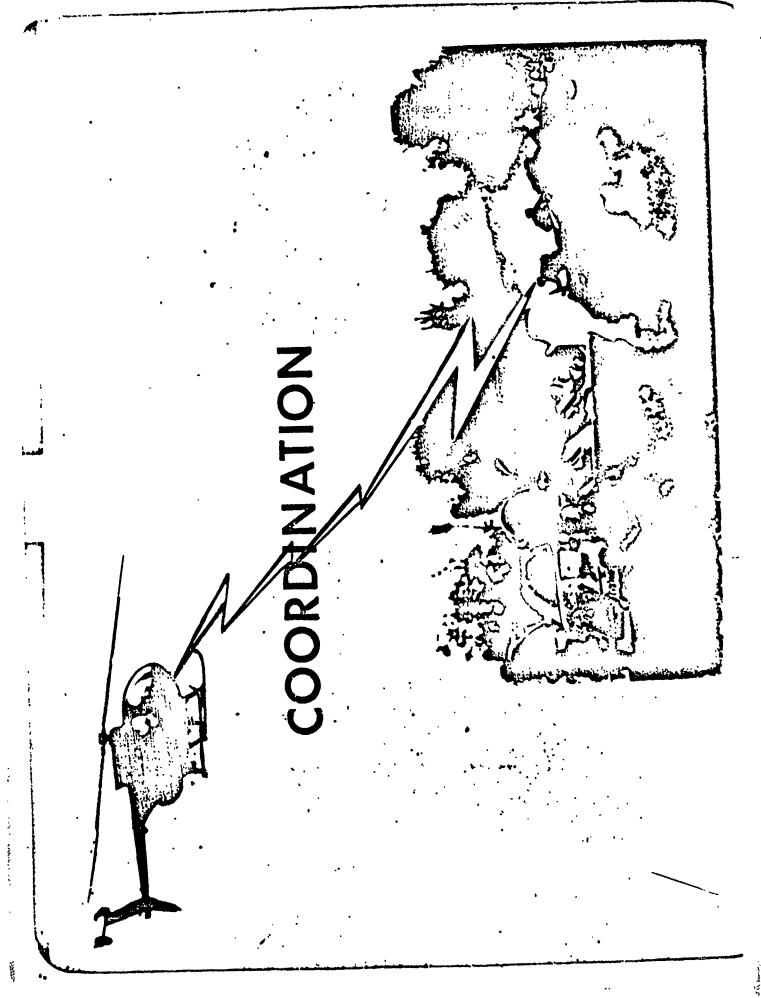
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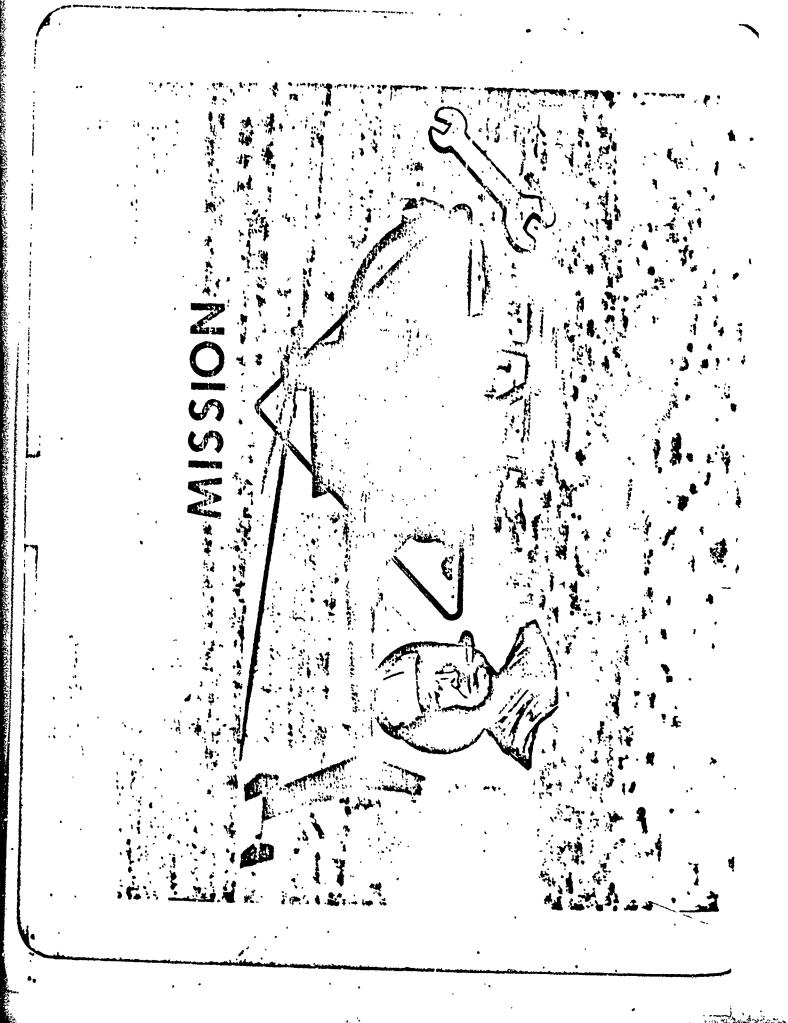
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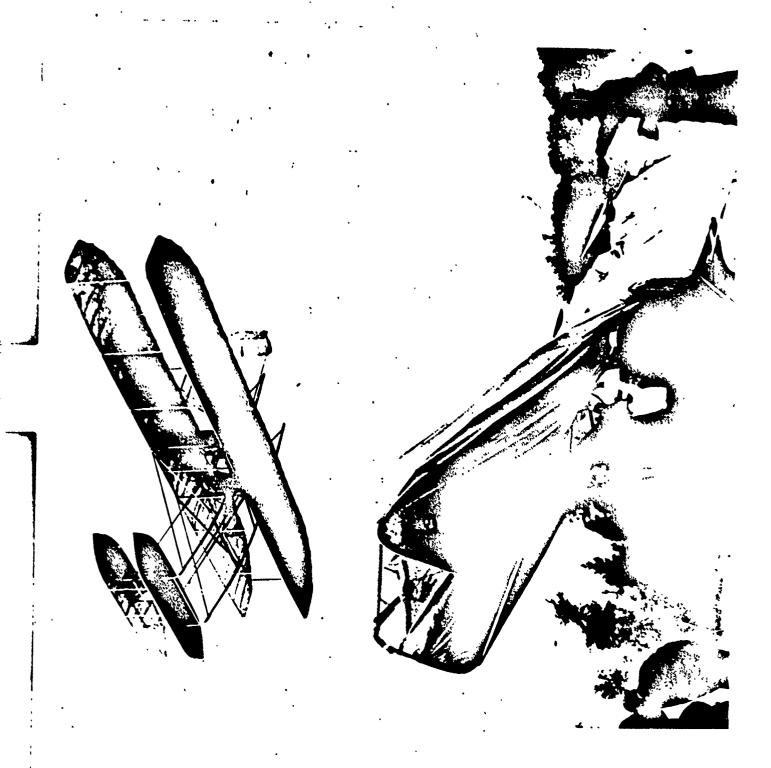


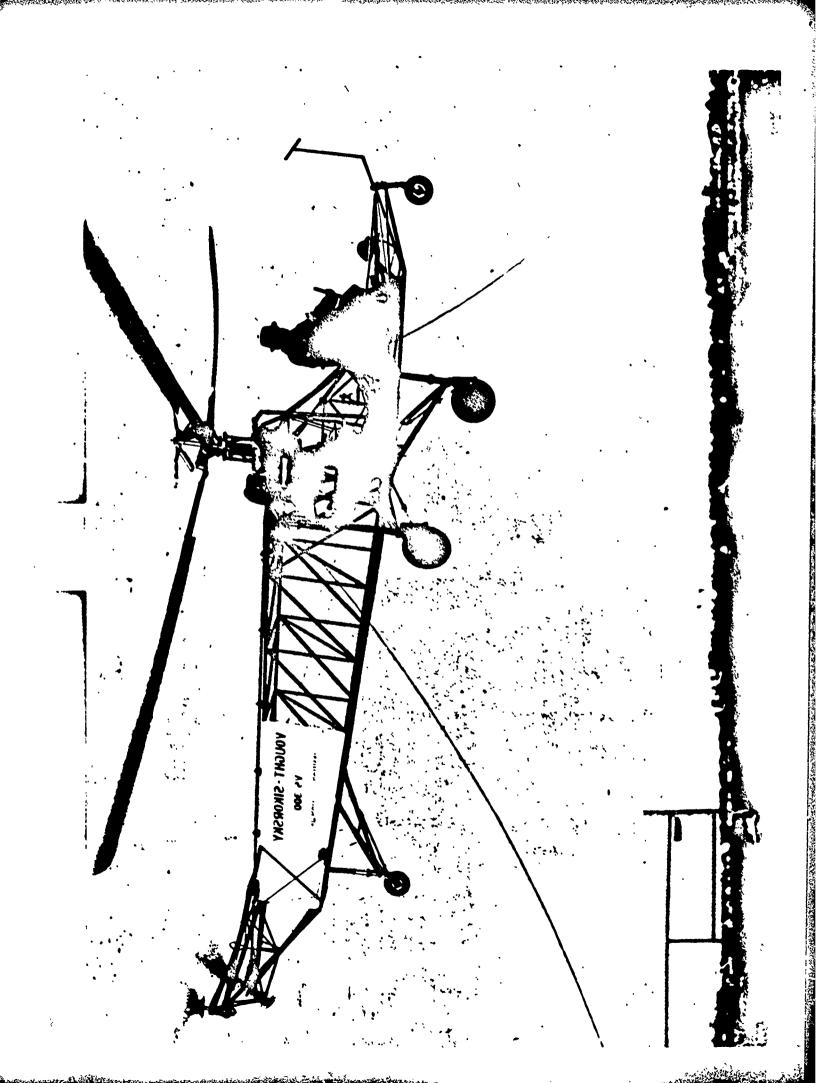


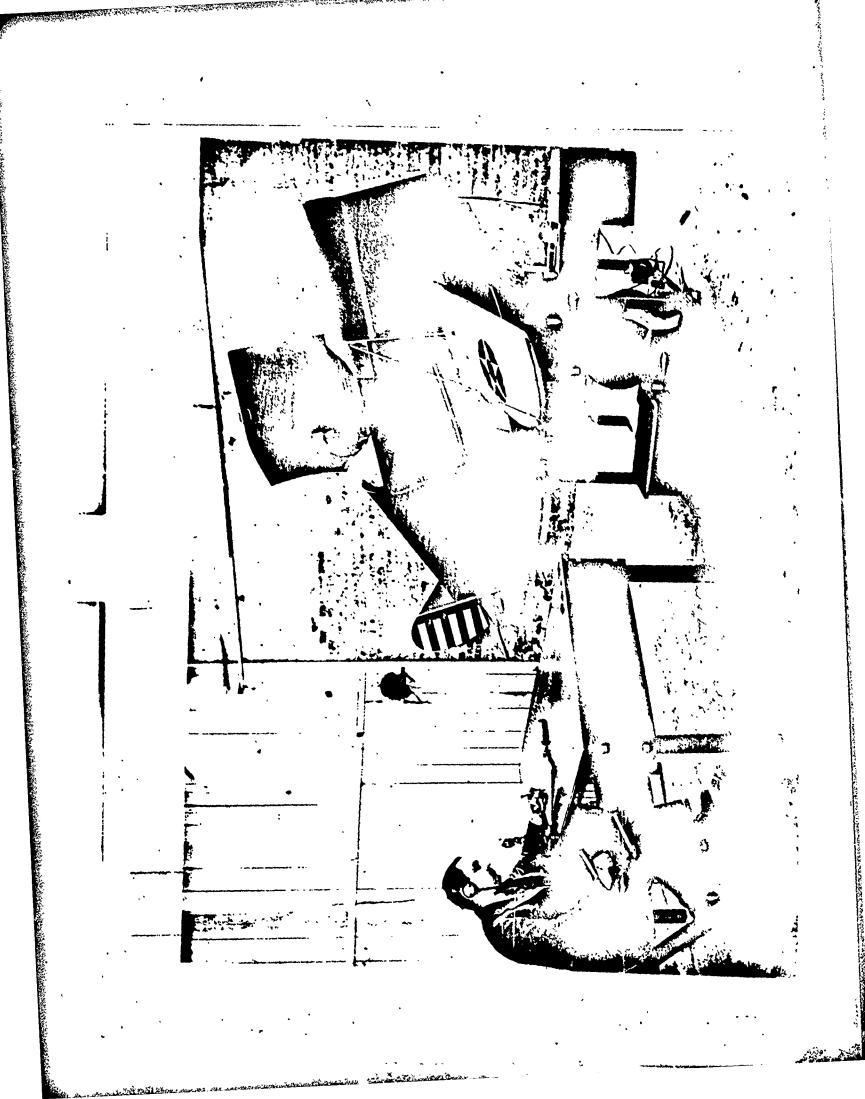
# **SIMULATORS**

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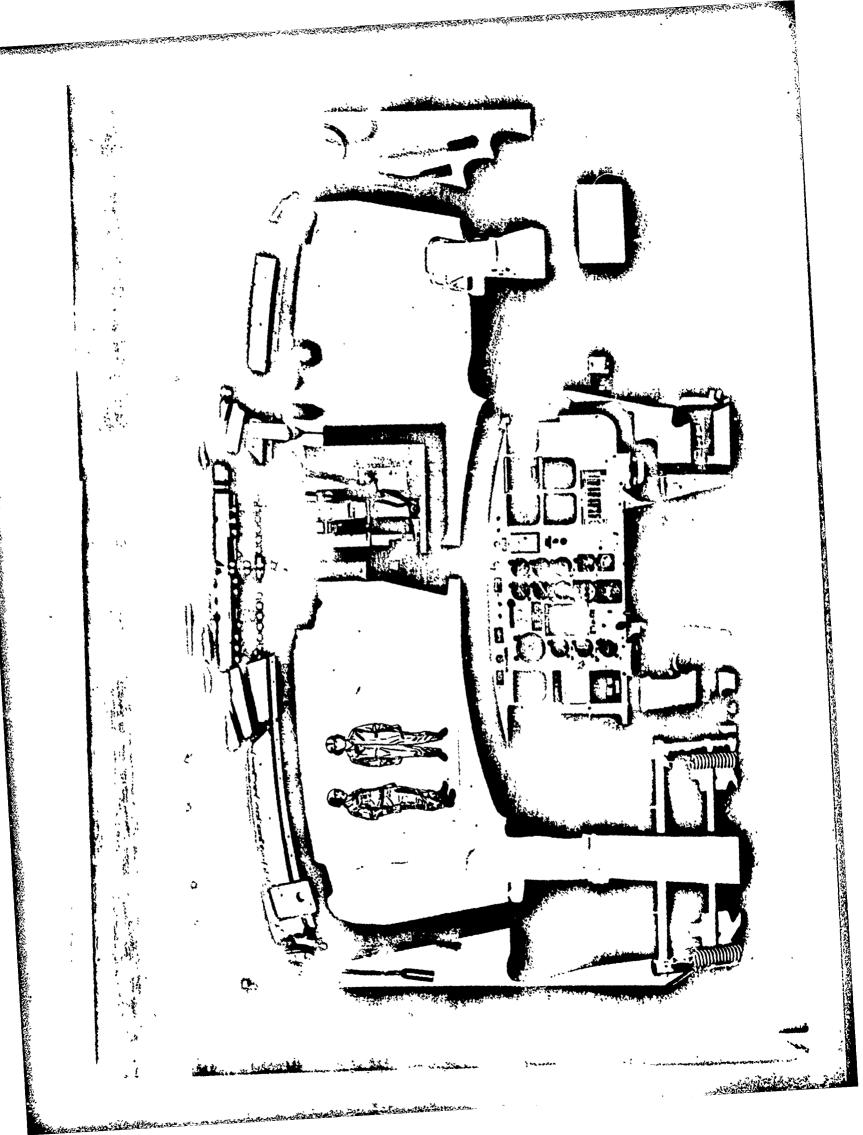


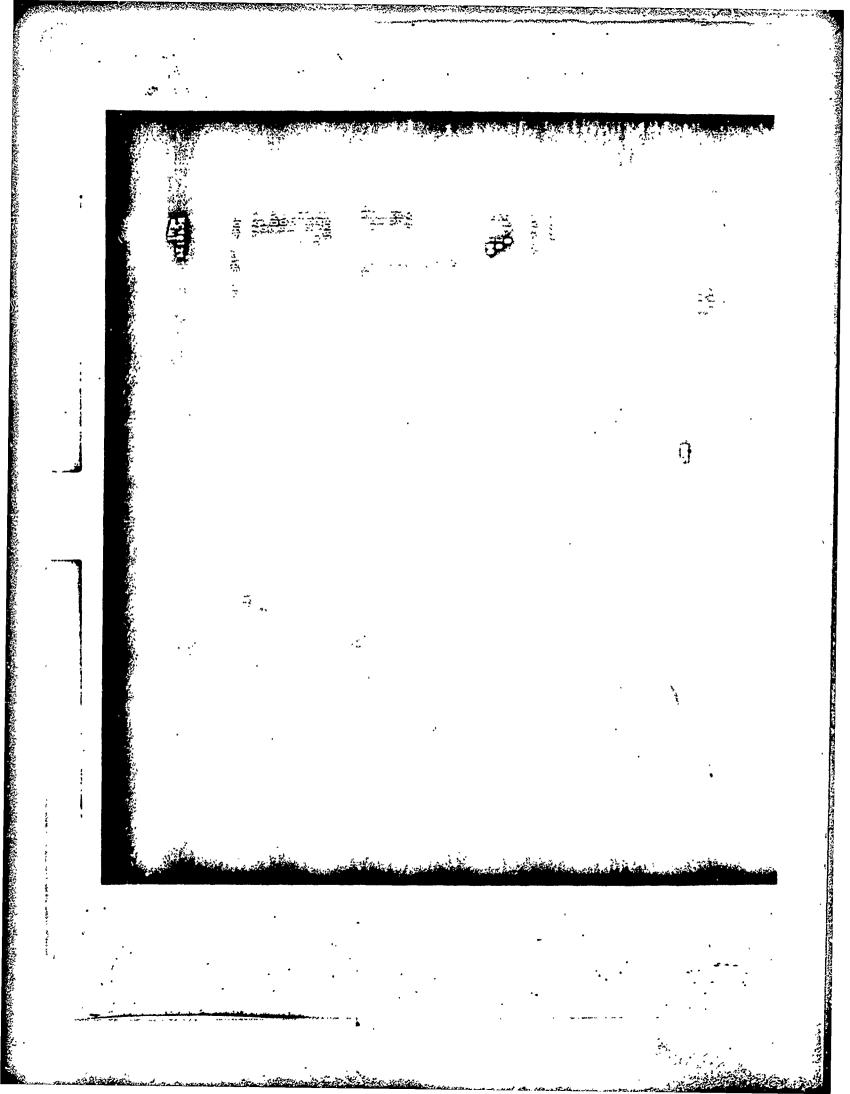


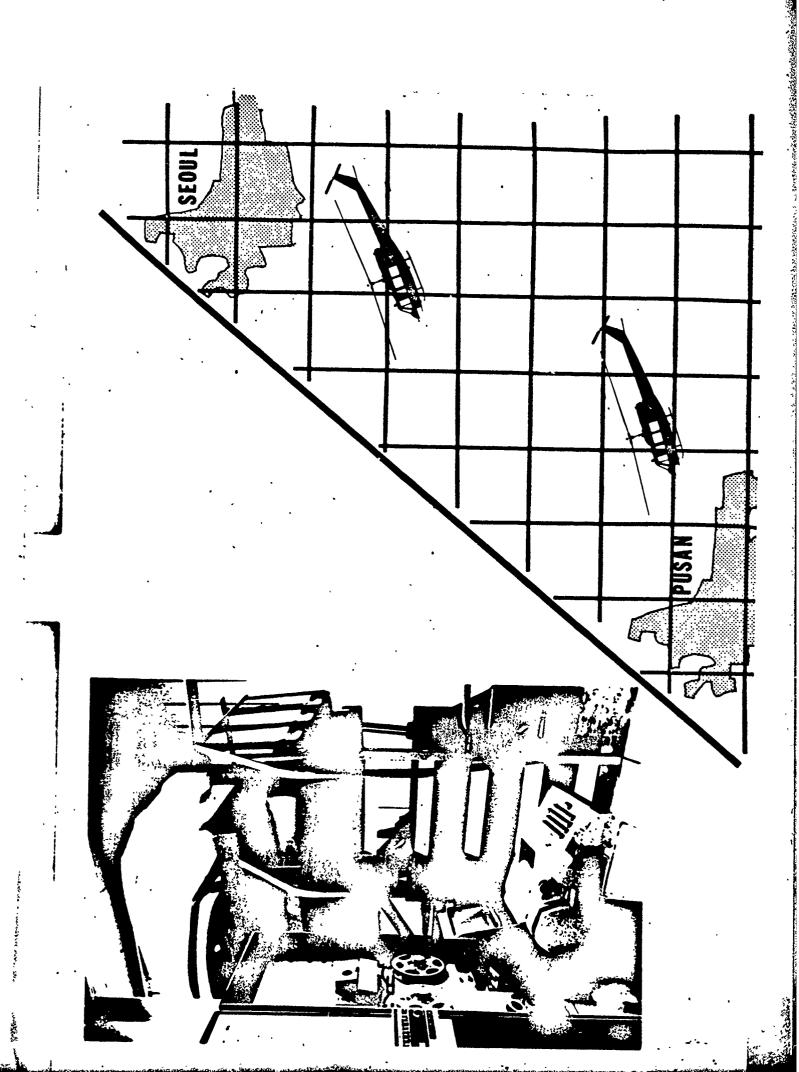


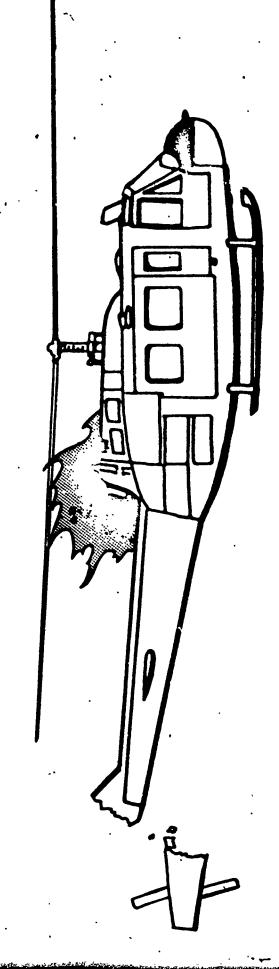


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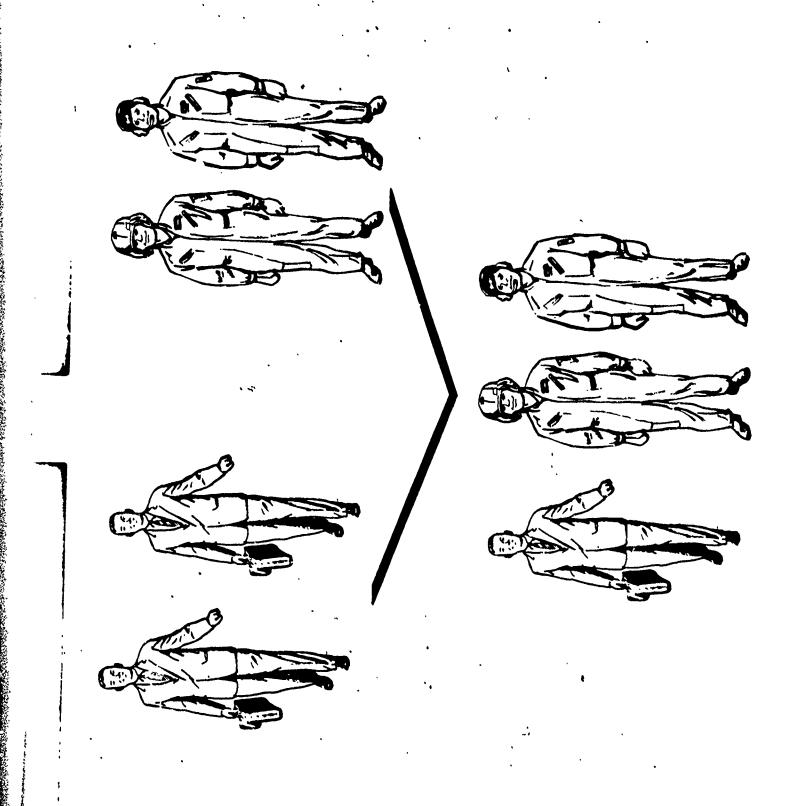
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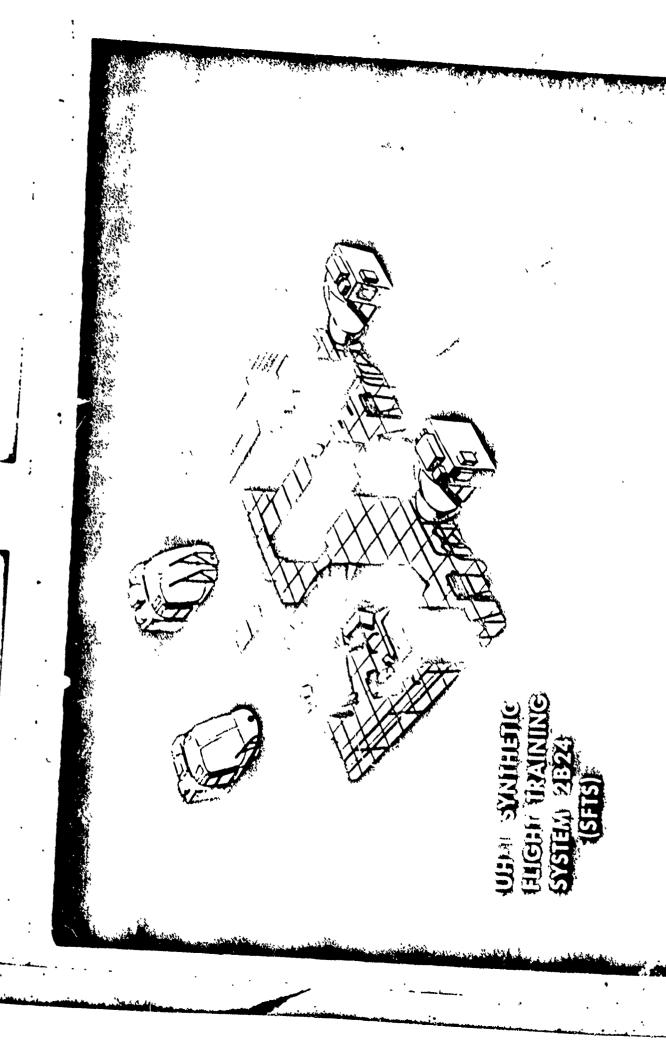


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# AUTOMATED TRAINING PROGRAMS

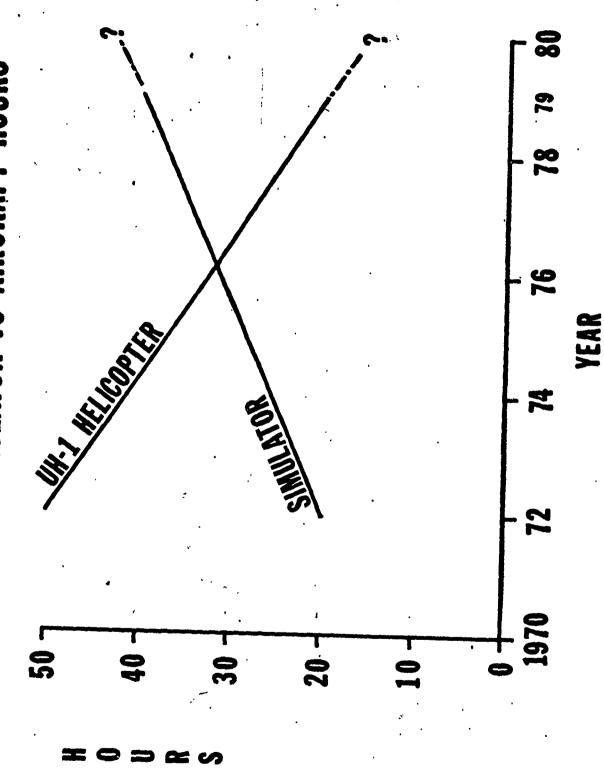
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PROGRESSION OF SIMULATOR VS AIRCRAFT HOURS



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	UH-1 FLIGHT TRAI™ING W/IP
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INST	IP IN COCKPIT UH-1 FLIGHT SIMULATOR
	PRIMARY FLIGHT TRAINING OH-23

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¥ide 1

GOOD MORNING GENTLEMEN. WELCOME TO TRAINING

WORKSHOP NUMBER TWO. THIS WORKSHOP WILL SPECIFICALLY

ADDRESS AVIATOR AND ENLISTED INDIVIDUAL TRAINING.

- SLIDE 2

SHOWN ON THIS SLIDE ARE THE AREAS WE WILL DISCUSS TODAY.

# (TRANSLATION)

SLIDE 3

DURING THE FIRST PERIOD TODAY WE WILL DISCUSS INITIAL ENTRY ROTARY WING TRAINING.

SLIDE 3B

WE WILL DISCUSS THREE TOOLS; THE ISD PROCESS,

THE INVERSE PLANNING SEQUENCE, AND THE TIME-LINE

GRAPH, AND SHOW HOW THEY HAVE BEEN USED BY THE US

ARMY AVIATION CENTER IN PREPARING FOR INCREASED

TRAINING REQUIREMENTS SIMILAR TO ROL'S. THE OTHER

ISSUES SHOWN ON THE PRECEDING SLIDE WILL BE ADDRESSED IN FOLLOWING PERIODS.

# (TRANSLATION)

BRIEFLY LET ME REVIEW THE WORKSHOP STRUCTURE. EACH ISSUE WILL BEGIN WITH A PRESENTATION BY MYSELF AND THE INTERPRETER. IF AT ANY TIME DURING THE PRESENTATION YOU HAVE A QUESTION, FEEL FREE TO ASK THE QUESTION IMMEDIATELY. THIS WILL ALLOW US TO CLARIFY THE QUESTION BEFORE PROCEEDING, FOLLOWING THE PRESENTATION YOU WILL BE ALLOWED TO DISCUSS THE PRESENTATION AMONG YOURSELVES. PLEASE LIMIT DISCUSSION ING ADDRESSED. I WILL BE AVAILABLE TO ANSWER ANY QUESTIONS THAT MAY ARISE. TOWARD THE END OF THE DISCUSSION PERIOD, TIME WILL BE ALLOTTED

FOR YOU TO FORMULATE SOME CONCLUSIONS AND RECOMMENDATIONS.

YOUR COOPERATION IS GREATLY APPRECIATED.

#### (TRANSLATION)

WITH THE PROJECTED SHARP INCREASE IN AVIATION ASSETS FOR ROKA, THERE WILL BE A SHARP INCREASE IN AVIATION RELATED TRAINING NECESSARY TO SUPPORT THE 1982 REQUIREMENTS. PROJECTED REQUIREMENTS ARE FOR APPROXIMATELY 950 AVIATORS TO BE TRAINED BEFORE 1982 IN ORDER TO FILL ALL AUTHORIZED AVIATION POSITIONS. THE UNITED STATES WENT THROUGH A PERIOD SIMILAR TO THIS WITH THE INCREASED EMPHASIS ON AVIATION DURING THE ADVENT OF THE VIETNAM WAR AND IS-CURRENTLY IN MUCH THE SAME SITUATION WITH THE RAPID EXPANSION OF

TRAINING TO MEET FORCE REALIGNMENT REQUIREMENTS.

#### (TRANSLATION)

YESTERDAY WE DISCUSSED THE INSTRUCTIONAL SYSTEMS DEVELOPMENT PROCESS AND HOW IT IS APPLIED IN DEVELOPMENT OF TRAINING PROGRAMS. THE U.S. ARMY AVIATION CENTER IS CURRENTLY PLANNING FOR A RAPID INCREASE IN THE NUMBER OF INITIAL ENTRY AVIATORS TO BE TRAINED EACH YEAR.

IN PLANNING FOR THIS INCREASE IN TRAINING WE HAVE APPLIED A SYSTEMATIC APPROACH SIMILAR TO THE INSTRUCTIONAL

SYSTEMS DEVELOPMENT TECHNIQUE. YOU WILL REMEMBER FROM

YESTERDAY THAT THIS TECHNIQUE USES A FIVE STEP

APPROACH TO DEVELOPING TRAINING PROGRAMS.

QLIDE 5 THE FIVE STEPS ARE:

SLIDE 4

DESIGN

DEVELOPMENT

IMPLEMENTATION AND

CONTROL

(TRANSLATION)

AT THE AVIATION CENTER WE HAVE TAKEN THE FIRST STEP

IN THIS PROCESS AND ANALYZED THE TRAINING PROBLEM.

WE DETERMINED THAT PROGRAMS NEEDED TO BE DEVELOPED

IN THESE AREAS:

SLIDE 6

INSTRUCTOR REQUIREMENTS

AIRCRAFT REQUIREMENTS

ACADEMIC CLASSROOM REQUIREMENTS

BILLETING, MESSHALL, LIFE SUPPORT REQUIREMENTS

AIRFIELD SUPPORT REQUIREMENTS

#### LOGISTIC REQUIREMENTS

#### TRANSPORTATION REQUIREMENTS

# MAINTENANCE/REFUEL REQUIREMENTS

# (TRANSLATION)

ONCE THE AREAS WERE IDENTIFIED WE PROCEEDED TO THE NEXT STEP IN THE PROCESS AND DETERMINED THE ACTIONS NEEDED TO SOLVE THE PROBLEM.

SLIDE 7

FOR EXAMPLE, WITH INSTRUCTOR REQUIREMENTS WE INITIALLY
IDENTIFIED THE NUMBER AND TYPE OF ADDITIONAL INSTRUCTORS
NEEDED TO SUPPORT THE INCREASE.

# (TRANSLATION)

FLIP 7A

HAVING ESTABLISHED THIS WE THEN DETERMINED WHO WAS QUALIFIED AND WHO WOULD NEED TO BE TRAINED.

OFLIP 78

IN THE NEXT PHASE OF THE PROCESS WE DEVELOP A PROGRAM ?

WHERE THE INSTRUCTORS WOULD BE QUALIFIED IN THE

PROPER SKILLS AND NUMBERS, IN TIME TO MEET THE

REQUIREMENTS.

FLIP 7C AFTER THIS PLAN IS DEVELOPED; WE IMPLEMENT THE TRAINING

NECESSARY TO MEET THE REQUIREMENT.

FLIP 7D WHEN THIS IS ACCOMPLISHED THE INSTRUCTORS ARE EVALUATED

AND ASSIGNED TO THEIR CONTROLLING DEPARTMENTS. THIS

APPROACH WAS APPLIED TO EACH OF THE AREAS IDENTIFIED

IN THE ANALYSIS PHASE AND HAS BEEN A VALUABLE TOOL

IN PLANNING FOR OUR INCREASED TRAINING.

# (TRANSLATION)

SLIDE 8 ANOTHER TECHNIQUE I WOULD LIKE TO DISCUSS IS

THE INVERSE PLANNING SEQUENCE.

FIDE 9 WITH THIS SEQUENCE WE FIRST DETERMINE THE

DESIRED PROGRAM COMPLETION DATE.

FLIP 9A

FOR EXAMPLE, WE DETERMINED THAT WE WOULD NEED SHELL

ARMY HELIPORT OPEN ON 27 NOVEMBER. THEN WE IDENTIFIED

TASKS THAT MUST BE COMPLETED FOR THE OBJECTIVE TO

BE MET.

FLIP 98

FOR EXAMPLE, WE NEEDED AUTOMATIC DATA PROCESSING

TERMINALS INSTALLED TO USE SHELL AIRFIELD. THIS

TASK WOULD TAKE THE LONGEST TIME TO COMPLETE OF

THE TASKS NECESSARY TO GET SHELL AIRFIELD OPERATIONAL.

(TRANSLATION)

FLIP ?3

THEN WE DECIDED HOW LONG IT WOULD TAKE TO ACCOMPLISH THIS TASK. WE WOULD NEED 10 MONTHS TO PROCURE AND INSTALL DATA TERMINALS AT SHELL.

PLIP 10

USING THIS TIME FRAME WE WERE ABLE TO BACK UP FROM

OUR DESIRED COMPLETION DATE AND DETERMINE THAT WE MUST INITIATE ACTION BY 27 JANUARY IN ORDER TO HAVE SHELL AIRFIELD OPEN ON 27 NOVEMBER. THIS INVERSE PLANNING SEQUENCE WAS USED WITH EACH AREA IDENTIFIED.

#### (TRANSLATION)

SLIDE 10

IT SHOULD BE NOTED HERE THAT SOME TASKS DEPEND ON ANOTHER TASK BEING COMPLETED BEFORE THE ORIGINAL TASK CAN BE STARTED. IN THIS TYPE OF SITUATION ONE MUST SOMETIMES PLAN ON A SERIES OF TASKS RATHER THAN THE ONE LONGEST TASK DETERMINING THE DATE ACTION MUST BE INITIATED.

# (TRANSLATION)

THE LAST TECHNIQUE THAT WE USED IN PLANNING FOR OUR INCREASED INITIAL ENTRY TRAINING WAS THE TIME-

DEPICT THE 14SKS THAT NEED TO BE PERFORMED AGAINST

A CALENDAR. THIS HELPS US TO EFFECTIVELY PLAN

NECESSARY COURSES OF ACTION IN A SYSTEMATIC MANNER.

THIS IS AN EXAMPLE OF SOME OF THE TASKS NECESSARY FOR

OUR INCREASED TRAINING REQUIREMENT AS SHOWN ON A TIME-

# (TRANSLATION)

SLIDE 12

EACH OF THE TECHNIQUES WE HAVE DISCUSSED HAS PROVEN

TO BE AN EFFECTIVE TOOL FOR THE US ARMY IN PREPARING

FOR OUR INCREASED TRAINING REQUIREMENTS. ONE OR A

COMBINATION OF THESE TECHNIQUES MAY PROVE USEFUL IN

PLANNING FOR ROKA'S INCREASED INITIAL ENTRY TRAINING

REQUIREMENTS. WE WILL NOW TAKE APPROXIMATELY 30 MINUTES

TO DISCUSS THESE TECHNIQUES AND TO PERMIT YOU

TO DEVELOP CONCLUSIONS (AND RECOMMENDATIONS)

BEFORE WE DO THIS, ARE THERE ANY QUESTIONS

REGARDING THE PRESENTATION?

(TRANSLATION)

A IDE 1

THE SECOND AREA THAT WE WILL ADDRESS TODAY IS QUALIFICATION TRACKING. BY TRACKING, I REFER TO THE CONCEPT OF CONDUCTING TACTICAL TRAINING OF INITIAL ENTRY ROTARY WING STUDENTS IN THE TYPE AIRCRAFT THEY WILL BE OPERATING. THE FORMAT THAT WE WILL USE THIS PERIOD WILL REMAIN THE SAME AS WE USED LAST PERIOD. IF AT ANY TIME YOU HAVE A QUESTION, FEEL FREE TO ASK IT IMMEDIATELY SO THAT WE MAY CLARIFY IT BEFORE PROCEEDING.

# (TRANSLATION)

TOWARD THE END OF THE VIETNAM CONFLICT, US ARMY

AVIATORS DISCOVERED THAT FLIGHT TECHNIQUES CONSIDERED

SAFE AND SUCCESSFUL DURING THE EARLY PORTIONS OF THAT

WAR WERE NO LONGER APPLICABLE. SOPHISTICATED ANTI-AIRCRAFT

WEAPONRY FORCED AIRCRAFT TO OPERATE AT LOWER ALTITUDES
THAN EVER BEFORE. THIS ENHANCED OUR SURVIVABILITY AND
INCREASED OUR PROBABILITY OF MISSION ACCOMPLISHMENT.

# (TRANSLATION)

THE MID EAST WAR (OCTOBER 1973) FURTHER CLARIFIED AND PLACED IN PERSPECTIVE THE THREAT AGAINST WHICH OUR AVIATION SYSTEMS MUST OPERATE ON TODAY'S BATTLEFIELD:

SLIDE 2

FIRST, A THREAT FORCE EMPHASIZING AN INTEGRATED

AIR DEFENSE EMPLOYING SOPHISTICATED WEAPONS SUCH AS

THE SA 6, SA 7, SA 8, AND ZSU-23-4. THIS INTEGRATED

DEFENSE FORMED A HIGHLY EFFECTIVE AIR DEFENSE UMBRELLA

AND SEVERELY RESTRICTED THE EFFECTIVENESS OF ISRAELI

AIR OPERATIONS EARLY IN THE WAR.

(TRANSLATION)

SLIDE 2A

SECOND, A THREAT FORCE CONDUCTING CONTINUOUS

OPERATIONS BY EXTENSIVE USE OF NIGHT FIGHTING AIDS SUCH

AS INFRA-RED DEVICES. THE CONTINUOUS PRESSURE AND

FIRES MADE REGROUPING OF FORCES A MAJOR PROBLEM IN THE

WAR.

#### (TRANSLATION)

SLIDE 2B

THIRD, A THREAT FORCE EMPLOYING ELECTRONIC

WARFARE EXTENSIVELY IN ALL COMBAT OPERATIONS. THE

ELECTRONIC WARFARE SEVERELY LIMITED THE EFFECTIVENESS

OF ISRAELI COMMAND AND CONTROL AND COMMUNICATION

DURING ALL TYPES OF COMBAT OPERATIONS.

SLIDE OFF

# (TRANSLATION)

THESE EVENTS BROUGHT ABOUT AN INTENSIVE REVIEW DESIGNED

TO ANALYZE THE FLIGHT OPERATIONS CRITICAL TO THE UPDATE OF AVIATOR TRAINING. IT WAS FOUND THAT THE MAJOR DEFICIENCY LIMITING THE COMBAT EFFECTIVENESS OF US ARMY AVIATION, THEN,

SLIDE 3

WAS THE LACK OF PROPER TRAINING ORIENTED TO THE HIGH
THREAT ENVIRONMENT. THIS RESULTED IN A NEW PROGRAM
OF INSTRUCTION BEING DEVELOPED.

#### (TRANSLATION)

SLIDE 4

A PRIMARY FEATURE OF THE NEW PROGRAM WAS

ADDITIONAL TACTICAL TRAINING ORIENTED TO THE HIGH

THREAT ENVIRONMENT. THIS TRAINING WAS DESIGNED TO

PRODUCE AN AVIATOR POSSESSING THOSE SKILLS NECESSARY

TO INTEGRATE INTO A DYNAMIC UNIT TRAINING PROGRAM. THE

TACTICAL PHASE INCORPORATED AN OH-58 TRACK AND A UH-1

TRACK. THE OH-53 COMBAT SKILLS TRACK WAS DEVELOPED

TO PROVIDE THE US ARMY WITH A WELL TRAINED OH-53

AVIATOR THOROUGHLY KNOWLEDGABLE IN THE SKILLS NECESSARY

TO FUNCTION IN THE AERIAL SCOUT ROLE WHILE THE UH-1H

TRACK MET THE ARMY'S NEED FOR UTILITY AVIATORS.

## (TRANSLATION)

PRIOR TO THE DEVELOPMENT OF THIS DUAL TRACK SYSTEM THE TRAINING OF THE AEROSCOUT PILOT CONSISTED OF A 10 HOUR TRANSITION IN THE UNIT AND WHATEVER ON-THE-JOB-TRAINING THE INDIVIDUAL GOT ON HIS OWN INITIATIVE. THIS WAS FOUND TO BE INADEQUATE.

SLIDE 5 THE OJT INSTRUCTION WAS INFLUENCED BY LOCAL OPINIONS,

LACK OF BOTH INSIGHT AND UNDERSTANDING OF AERIAL SCOUT

FUNCTIONS, AND AN INCOMPLETE UNDERSTANDING OF THREAT

UNIT READINESS STATUS AND TRAINING TIME.

#### (TRANSLATION)

THE IMPLEMENTATION OF THE DUAL TRACK PROGRAM ELIMINATED

MANY OF THESE PROBLEMS. IT ALSO PRODUCED A NAP-OF-THE
EARTH QUALIFIED GRADUATE WHO WAS QUALIFIED IN THE UNIT'S

ORGANIC AIRCRAFT AND MISSION READY IMMEDIATELY UPON

ASSIGNMENT TO AN AVIATION UNIT.

# (TRANSLATION)

THE SUCCESS OF THIS PROGRAM HAS LED THE US ARMY TO

CONSIDER THE FEASIBILITY OF EXPANDING THE QUALIFICATION

TRACK CONCEPT TO INCLUDE ATTACK AND CARGO TRACKS FOR

INITIAL ENTRY STUDENTS. EXAMPLES OF PROPOSED PROGRAMS

CO SLIDES SAF FOR THESE TRACKS ARE SHOWN HERE.

#### (TRANSLATION)

IN THE PAST WE THOUGHT THAT IT WAS NECESSARY FOR AN AVIATOR TO HAVE APPROXIMATELY 500 HOURS OF FLIGHT EXPERIENCE BEFORE TRANSITIONING INTO A MORE COMPLEX AIRCRAFT LIKE THE CH-47. HOWEVER, DURING THE VIETNAM ERA WE FOUND THAT WE COULD SUCCESSFULLY TRANSITION AVIATORS IMMEDIATELY ON COMPLETION OF INITIAL ENTRY TRAINING. THIS MADE IT SEEM FEASIBLE TO CONSIDER TRACKING OF THE MORE COMPLEX AIRCRAFT AS WELL. A PRIMARY CONSIDERATION IN THIS DECISION IS THE COST EFFECTIVENESS OF USING THE MORE COMPLEX AND EXPENSIVE AIRCRAFT EARLY IN THE TRAINING PROCESS.

(TRANSLATION)

CLIDE 8

IN LIGHT OF LIMITED ANTICIPATED ROK AVIATOR

REQUIREMENTS IN THE AH-1 AND CH-47 AIRCRAFT THIS MAY

BE A VALID CONCEPT FOR YOUR CONSIDERATION. THIS

PROGRAM SHOULD BE WEIGHED AGAINST THE POSSIBILITY

THAT RAPID ATTRITION IN A COMBAT ENVIRONMENT COULD

SERIOUSLY JEOPARDIZE THE AH-1 AND CH-47 AVIATOR

FORCE.

## (TRANSLATION)

THE DUAL TRACK PROGRAM HAS PROVEN HIGHLY SUCCESSFUL
IN TRAINING INITIAL ENTRY STUDENTS AND CONSERVING
RESOURCES. A PROGRAM SIMILAR TO IT COULD HAVE BOTH
SHORT RANGE AND LONG RANGE APPLICATION IN ROKA'S
TRAINING. WE WILL NOW TAKE SOME TIME FOR YOU TO

DISCUSS THESE CONCEPTS AND TO PERMIT YOU TO

DEVELOP CONCLUSIONS AND RECOMMENDATIONS. I WILL

BE AVAILABLE IF THERE ARE ANY QUESTIONS.

(TRANSLATION)

THE THIRD AREA OF AVIATOR TRAINING THAT WE WILL

ADDRESS TODAY IS TRANSITION TRAINING. WE WILL DISCUSS
THIS FROM TWO ASPECTS.

FLIP 1/A FIRST WE WILL LOOK AT FIXED WING TO ROTARY WING TRANSITIONS.

FLIP 1/8 THEN WE WILL DISCUSS SOME CONSIDERATIONS FOR ROTARY WING TO ROTARY WING TRANSITIONS. OUR FORMAT FOR THIS PERIOD WILL

REMAIN THE SAME AS WE HAVE BEEN USING. AGAIN LET ME REMIND

YOU THAT IF YOU HAVE ANY QUESTIONS, FEEL FREE TO ASK THEM

IMMEDIATELY SO THAT WE CAN CLARIFY THEM BEFORE WE PROCEED.

# (TRANSLATION)

COVER 2ND FLIP THE FLEXIBILITY AND MOBILITY OFFERED BY THE

HELICOPTER HAS DECREASED THE RELIANCE ON FIXED WING

TRANSPORTABILITY. THIS DECREASED RELIANCE RESULTED IN THE

US ARMY REDUCING ITS FIXED WING INVENTORY.

SLIDE 2 NEAR TERM PROJECTIONS FOR ROKA INDICATE A REDUCTION OF

and the same of th

YOUR FIXED WING AIRCRAFT FROM APPROXIMATELY 276 IN 1978 TO

APPROXIMATELY 154 IN 1982. AS WE REDUCED OUR FIXED WING

FLEET, OUR NEED FOR AVIATORS WITH FIXED WING ONLY QUALIFICATIONS

ENDED. THESE FIXED WING ONLY AVIATORS HAD BECOME AN ARMY

LIABILITY IN RESPECT TO THE VARIETY OF AVIATION ASSIGNMENTS

FOR WHICH THEY WERE QUALIFIED.

#### (TRANSLATION)

ARMS TEAM IT BECAME APPARENT THAT MAINTAINING COMBAT READY
ROTARY WING PILOTS WAS CRITICAL TO A FAVORABLE READINESS
POSTURE.

SLIDE 3 WE CONDUCTED A STUDY OF US ARMY AVIATION AND CONCLUDED

THAT THERE WAS A VALID REQUIREMENT FOR THE CREATION OF A

ROTARY WING QUALIFICATION COURSE FOR FIXED WING ONLY

AVIATORS. THIS TRAINING WOULD INCREASE THE FLEXIBILITY OF AVIATION ASSIGNMENTS AND INCREASE THEIR EFFECTIVENESS IN PERFORMANCE OF ARMY AVIATION'S ROLE AS A MEMBER OF THE COMBINED ARMS TEAM.

## (TRANSLATION)

SLIDE 4 THE STUDY RECOMMENDED THAT A ROTARY WING QUALIFICATION

COURSE BE ESTABLISHED TO QUALIFY ALL FIXED WING AVIATORS

IN THE ARMY IN ROTARY WING AIRCRAFT. IT ALSO RECOMMENDED

THAT THIS TRAINING NOT BE PROVIDED TO AVIATORS THAT WOULD

HAVE MINIMAL RETENTION AND UTILIZATION UPON COMPLETION OF

THE TRAINING. THEREFORE, RETENTION CRITERION WAS USED AS

A BASIS FOR SELECTION OF AVIATORS TO ATTEND THE TRAINING.

A STATE OF THE PARTY OF THE PAR

(TRANSLATION)

COURSE INDICATED TWO CONSIDERATIONS THAT SHOULD BE LOOKED AT: IN PLANNING THIS TRAINING.

INSTRUCTOR PILOTS IS AN ASSET IN TRAINING. DUAL RATED

INSTRUCTORS ARE FAMILIAR WITH THE EXPERIENCE BASE OF THE

FIXED WING TO ROTARY WING STUDENTS AND ARE BETTER ABLE TO

ANTICIPATE PROBLEMS THEY WILL ENCOUNTER. IN ADDITION,

DUAL RATED INSTRUCTORS CAN TRANSLATE AERODYNAMICS FROM

BOTH THE FIXED AND ROTARY WING VIEWPOINT.

# (TRANSLATION)

THE SECOND AREA THAT SHOULD BE CONSIDERED IS THE
TRAINING OF TACTICAL FLYING TECHNIQUES DURING THE

QUALIFICATION COURSE. THE US ROTARY WING QUALIFICATION STUDENT CURRENTLY GETS THIRTY HOURS OF CONTACT TRAINING AND THIRTY HOURS OF INSTRUMENT TRAINING IN THE COURSE. . WE HAVE FOUND FOR OUR PURPOSES IT IS MORE COST EFFECTIVE. TO TRAIN THE TACTICAL SKILLS IN THE UNIT FOR THE US QUALIFICATION STUDENT. THE ROKA, HOWEVER, MAY WANT TO CONDUCT THIS TRAINING AS PART OF YOUR ROTARY WING QUALIFICATION COURSE/TO ENHANCE THE MISSION READINESS OF THE GRADUATE AVIATOR. TIME COULD BE TAKEN AWAY FROM INSTRUMENT QUALIFICATION IF YOU DETERMINE TACTICAL TRAINING TO BE MORE PERTINENT.

### (TRANSLATION)

SLIDE 5 OTHER QUESTIONS YOU MAY WANT TO CONSIDER IN YOUR

TRAINING PROGRAM ARE:

- 1. WHY CONTINUE TO TRAIN FIXED WING AVIATORS? WITH YOUR PLANNED REDUCTION OF THE FIXED WING FLEET WILL THE PRESENT CONTINGENT OF FIXED WING AVIATORS BE ADEQUATE WITH PROJECTED ATTRITION/RETENTION RATES?
- 2. IF NECESSARY TO CONTINUE TRAINING FIXED WING AVIATORS, WHAT IS THE FEASIBILITY OF THE AIR FORCE CONDUCTING SOME OR ALL OF THAT TRAINING?
- 3. IS IT FEASIBLE TO "TRACK" FIXED WING AVIATORS AND NOT ROTARY WING QUALIFY THEM AT ALL?

# (TRANSLATION)

CONSIDER IS ROTARY WING TO ROTARY WING TRANSITIONS.

INTRODUCTION OF SEVERAL DIFFERENT AND COMPLEX TYPE AIRCRAFT

CREATES THE NEED, NOT ONLY FOR MANY NEW AVIATORS, BUT ALSO

FOR QUALIFICATION TRAINING FOR CURRENT AVIATORS INTO NEW TYPE AIRCRAFT.

THIS CREATES THE QUESTION OF WHETHER IT IS FEASIBLE

IN LIGHT OF INCREASED INITIAL ENTRY TRAINING AT THE

AVIATION SCHOOL TO CONDUCT TRANSITION TRAINING IN THE

UNIT.

#### (TRANSLATION)

TRANSITION COURSES ARE CURRENTLY BEING CONDUCTED AT FORT
RUCKER FOR THE AH-1 AND CH-47. FORT HOOD, TEXAS IS PRESENTLY
TRAINING AVIATORS IN THE AH-1 IN ACCORDANCE WITH AVIATION
CENTER ASSISTANCE AND PROGRAM OF INSTRUCTION.

SLIDE 8 PERSONNEL AT FORT HOOD INDICATE THAT THEIR COURSES OF INSTRUCTION PRODUCE A FULLY QUALIFIED PILOT.

HOWEVER, UTILIZATION OF UNIT INSTRUCTOR PILOTS AND RESOURCES DEGRADES UNIT READINESS STATUS AND AVAILABLE.

TRAINING TIME.

STANDARDIZATION AND TRAINING AIDS HAVE PRESENTED A MAJOR
PROBLEM. SOPHISTICATED SYSTEM MOCK-UPS THAT ARE USED IN
INSTRUCTION AT THE SCHOOL ARE NOT AVAILABLE TO THE UNIT
TRAINERS BECAUSE OF FUNDING CONSTRAINTS. THESE AREAS
REQUIRE MUCH GUIDANCE AND ASSISTANCE FROM OUTSIDE THE
UNIT. THE DIRECTORATE OF EVALUATIONS AND STANDARDIZATION
FROM OUR AVIATION CENTER CLOSELY MONITORS THE PROGRAM.

# (TRANSLATION)

FLIP 32 THIS COURSE OF ACTION IS COST EFFECTIVE AND PRECLUDES

THE UNIT FROM BEING HAMPERED BY A SERVICE SCHOOL TRAINING

BACKLOG. IT IS PARTICULARLY EFFECTIVE IN A SITUATION WHERE

A RAPID INCREASE IN TRAINING HAS CREATED AN OVERLOAD

CONDITION AT A SERVICE SCHOOL.

#### (TRANSLATION)

THESE ARE SOME OF THE CONSIDERATIONS THAT EFFECTED

THE US DECISION TO USE UNIT TRANSITIONS IN SOME CASES.

THEY COULD BE APPLIED TO SIMILAR PROBLEMS IN ROKA AVIATION.

WE WILL NOW TAKE SOME TIME FOR YOU TO DISCUSS THESE

CONSIDERATIONS AMONG YOURSELVES AND TO PERMIT YOU TO

FORMULATE YOUR CONCLUSIONS AND RECOMMENDATIONS. I WILL

BE AVAILABLE IF THERE ARE ANY QUESTIONS REGARDING THE

PRESENTATIONS.

(TRANSLATION)

THE NEXT AREA THAT WE WILL ADDRESS TODAY IS ENLISTED.

TRAINING. WE WILL DISCUSS THIS FROM TWO ASPECTS.

FLIP 1.7 FIRST, WE WILL LOOK AT TRAINING OF ENLISTED AVIATION PERSONNEL.

FLIP:3 THEN WE WILL LOOK AT AVIATION RELATED TRAINING OF NON-AVIATION PERSONNEL.

DURING THE NEXT PERIOD WF "ILL DISCUSS AIRCRAFT AND COMPONENT REPAIR TRAINING. OUR FORMAT FOR THIS PERIOD WILL REMAIN THE SAME AS WE HAVE BEEN USING. IF YOU HAVE ANY QUESTIONS FEEL FREE TO ASK THEM IMMEDIATELY SO THAT WE CAN CLARIFY THEM BEFORE WE PROCEED.

#### (TRANSLATION)

THE INTRODUCTION OF SEVERAL DIFFERENT AND COMPLEX

TYPE AIRCRAFT CREATES THE NEED FOR THE RECRUITMENT AND

TRAINING OF LARGE NUMBERS OF ENLISTED AVIATION PERSONNEL.

ONE OF THE MOST FORMIDABLE TASKS FACED IS THE TRAINING

OF PERSONNEL TO MAINTAIN THE AIRCRAFT. THE NEAR TERM

PROJECTION OF ROKA TRAINING REQUIREMENTS IS FOR APPROXIMATELY

2000 MAINTENANCE PERSONNEL TO BE TRAINED BEFORE 1982 IN

ORDER TO FILL ALL AUTHORIZED AVIATION MAINTENANCE POSITIONS.

IN ORDER TO ACCOMPLISH THIS TASK, IT IS NECESSARY TO

MAXIMIZE THE USE OF ALL AVAILABLE TRAINING ASSETS.

### (TRANSLATION)

SLIDE 3 ONE TECHNIQUE THE US ARMY USES FOR MAXIMIZING THE

USE OF TRAINING ASSETS IS SHIFT TRAINING. SHIFT TRAINING

IS THE CONCEPT OF USING MULTIPLE TRAINING PERIODS.

SLIDE 4 THE US AVIATION SCHOOL HAS RECENTLY IMPLEMENTED THIS

PROCEDURE IN ITS HELICOPTER REPAIR TRAINING PROGRAM.

THIS ENABLES US TO GET TWICE THE USE OUT OF OUR FACILITIES.

BY USING TWO TRAINING PERIODS. ONE PERIOD IS CONDUCTED

FROM 0530 HOURS UNTIL 1230 HOURS. THE AFTERNOON SHIFT

WORKS FROM 1230 UNTIL 1900.

SLIDE 5 THE ONLY DRAWBACK THAT WE HAVE DISCOVERED WITH THIS

SYSTEM IS THAT IT REQUIRES AN INCREASED NUMBER OF

INSTRUCTORS TO SUPPORT THE ADDITIONAL TRAINING.

### (TRANSLATION)

SLIDE 6

A SECOND TOOL THAT WE USE IN OUR AIRCRAFT AND COMPONENT

SLIDESA REPAIR TRAINING IS SELF-PACED LEARNING. THIS TECHNIQUE

ALLOWS THE STUDENT TO PROCEED THROUGH THE LEARNING PROCESS

AT HIS OWN RATE. HE DOESN'T PROCEED WITH THE NEXT TASK

IN THE LEARNING PROGRAM UNTIL HE HAS MASTERED THE PREVIOUS

TASK. WE HAVE FOUND THAT THIS TECHNIQUE PRODUCES A HIGHER

QUALITY GRADUATE WITH FEWER INSTRUCTORS. THE MAJOR

DISADVANTAGE WITH THIS PROGRAM IS THAT IT TAKES A LITTLE

LONGER TO PRODUCE A GRADUATE THAN WITH CONTROLLED TRAINING

PROGRESSION.

### (TRANSLATION)

- SLIDE 7 ANOTHER TECHNIQUE THAT CAN BE USED TO MAXIMIZE USE OF TRAINING ASSETS IS CONSOLIDATION.
- SLIDE 8 THE US ARMY CURRENTLY TRAINS ENLISTED AVIATION PERSONNEL AT FIVE SEPARATE ARMY POSTS. WE HAVE FOUND THAT THIS ARRANGEMENT IS FAR FROM AN IDEAL SITUATION.
- SLIDE 9 THE US ARMY AVIATION AND TRANSPORTATION SCHOOLS HAVE

  CONSIDERED CONSOLIDATING ALL AIRCRAFT AND COMPONENT REPAIR

  TRAINING AT THE US ARMY TRANSPORTATION SCHOOL. WE HAVE FOUND

  THAT AIRCRAFT REPAIR AND COMPONENT REPAIR TRAINING ARE VERY

SIMILAR.

IN SOME CASES IDENTICAL TOOLS, TRAINING DEVICES, AND

INSTRUCTOR EXPERTISE. CONSOLIDATION OF THE MAINTENANCE

RELATED TRAINING WOULD ALLOW MAXIMUM UTILIZATION OF

TOOLS, AND INSTRUCTORS.

(TRANSLATION)

AN ADDITIONAL ADVANTAGE OF CONSOLIDATION WOULD BE

THE ENHANCED STANDARDIZATION OF MAINTENANCE PRACTICES

AND TRAINING.

CLASSROOMS, INSTRUCTIONAL MATERIALS, TRAINING DEVICES,

THE AVIATION SCHOOL FROM TACTICAL UNITS IS NOT USED AS

EFFECTIVELY AS POSSIBLE IN FORMULATING THE PROGRAM OF

INSTRUCTION BECAUSE THE PROPONENT AGENCY FOR THE PROGRAM

IS THE TRANSPORTATION SCHOOL. CONSOLIDATION WOULD FACILITATE THE USE OF THAT EXPERTISE TO STANDARDIZE PRACTICES AND TRAINING.

SLIDE OFF

(TRANSLATION)

THE US ARMY HAS FOUND THESE TECHNIQUES TO BE VALID

CONSIDERATIONS IN FORMULATING AN EFFICIENT AIRCRAFT REPAIR

TRAINING PROGRAM.

SLIDE 12 TWO OF THE TECHNIQUES, CONSOLIDATION AND SHIFT TRAINING,

COULD HAVE IMMEDIATE IMPACT IF INCLUDED IN THE ROKA'S

TRAINING PROGRAM. THE OTHER TECHNIQUE, SELF PACED LEARNING,

SHOULD BE CONSIDERED FOR ITS LONG RANGE APPLICATION. WE

WILL NOW TAKE SOME TIME FOR YOU TO DISCUSS THESE

CONSIDERATIONS AMONG YOURSELVES AND TO PERMIT YOU TO

FORMULATE YOUR CONCLUSIONS AND RECOMMENDATIONS. I WILL

BE AVAILABLE IF THERE ARE ANY QUESTIONS REGARDING THE

PRESENTATIONS.

(TRANSLATION)

SLIDE 1 THE NEXT AREA WE WILL DISCUSS TODAY IS ENLISTED.

ARMAMENT REPAIRER TRAINING.

WITH THIS TRAINING. FIRST, WE WILL LOOK AT THE USE OF

SIMULATORS FOR TRAINING AND MAINTAINING PROFICIENCY. SECOND,

WE WILL EXAMINE FACTORS IN MAINTAINING THE MORALE OF THE

ARMAMENT REPAIRER. LAST, WE WILL LOOK AT FACTORS THAT

SHOULD BE CONSIDERED IN THE SELECTION OF PERSONNEL FOR

TRAINING.

### (TRANSLATION)

SLIDE 2 OFF OUR FORMAT DURING THIS PERIOD WILL REMAIN THE SAME AS

WE HAVE BEEN UCING. AGAIN LET ME REMIND YOU THAT IF YOU

HAVE ANY QUESTIONS, FEEL FREE TO ASK THEM IMMEDIATELY SO

THAT WE CAN CLARIFY THEM BEFORE WE PROCEED.

### (TRANSLATION)

WITH THE INCREASE IN THE COMPLEXITY OF ARMAMENT ON
THE HELICOPTER, COMMANDERS SOON CAME TO REALIZE THAT THE
HELICOPTER WAS A MEAPONS SYSTEM. IT WAS NO LONGER SUFFICIENT
FOR AN ATTACK HELICOPTER TO BE FLYABLE TO BE AN ASSET ON THE
COMBINED ARMS BATTLEFIELD. TO BE AN ASSET, AN ATTACK
HELICOPTER MUST HAVE OPERATIONAL WEAPONS SYSTEMS. THUS,
THE ARMAMENT REPARIER BECAME A KEY ELEMENT IN THE COMBINED
ARMS TEAM.

### (TRANSLATION)

(1)

THE US ARMY SOON REALIZED THAT A MAJOR PROBLEM WITH

ARMAMENT REPAIRER TRAINING LAY NOT ONLY IN INITIAL TRAINING

BUT IN MAINTAINING HIS PROFICIENCY AFTER JOINING THE
TACTICAL UNIT. NEW TECHNOLOGICAL DEVELOPMENTS HAVE
INCREASED THE COST AND COMPLEXITY OF HELICOPTER WEAPONS
SYSTEMS, CREATING NEW DEMANDS FOR MAINTENANCE AND
TECHNICAL SKILL TRAINING. EXPENSIVE DIAGNOSTIC TEST
KITS ARE NEEDED TO DIAGNOSE MALFUNCTIONS IN THESE WEAPONS
SYSTEMS. THE HIGH COST OF THESE TEST SETS OFTEN CAUSED
THE UNITS TO BE RELUCTANT TO ALLOW A NEW GRADUATE TO USE
THIS EQUIPMENT WITHOUT CLOSE SUPERVISION.

### (TRANSLATION)

THE HIGH COST OF AMMUNITION BROUGHT ABOUT THE DEVELOPMENT

OF SIMULATORS TO TRAIN THE GUNNER IN FIRING THE MEAPONS.

USING THESE SIMULATORS OFTEN MEANT THAT THE WEAPONS SYSTEMS

WENT UNUSED A LARGE PERCENTAGE OF THE TIME. CONSEQUENTLY,
THE ARMAMENT REPAIRER RECEIVED LITTLE ON THE JOB TRAINING
IN USING THE TEST EQUIPMENT AND IN MAINTAINING AND REPAIRING
THE WEAPONS SYSTEMS. THIS CAUSED THE US ARMY TO DEVELOP
SIMULATORS TO TRAIN THE ARMAMENT REPAIRER ALSO.

SLIDE 3
LEFT

THESE SIMULATORS INCORPORATE THE DIAGNOSTIC TEST

EQUIPMENT IN AN AREA APPROXIMATELY THE SIZE OF AN OFFICE

DESK. WE CURRENTLY HAVE SEVEN SIMILATORS IN USE IN OUR

ARMAMENT REPAIRER TRAINING PROGRAM.

(TRANSLATION)

SLIDE 4 THE SIMULATORS TEACH: RIGHT

- . TOW SYSTEM OPERATIONAL PROCEDURES
- . TOW SYSTEM DIAGNOSTICS
- . MISSILE COMMAND SUBSYSTEM DIAGNOSTICS

- . ARMAMENT SUBSYSTEM PROCEDURES
- . HELMET SIGHT SUBSYSTEM OPERATION AND DIAGNOSTICS
- . SYSTEM ELECTRICAL POWER SUPPLY (AC/DC)

THESE FUNCTIONS CAN BE MONITORED ON THIS SCREEN.

### (TRANSLATION)

- SLIDE 5 THE ADVANGATES ARE THAT THESE SIMULATORS INCORPORATE

  THE DIAGNOSTIC TEST EQUIPMENT.
- FLIP 40 STUDENTS ARE ABLE TO PRACTICE CRITICAL PROCEDURES AND SKILLS WITHOUT FEARING DAMAGE TO EXPENSIVE COMPONENTS.
- THEY CAN BE OPERATED BY ONE MAN AS OPPOSED TO THE THREE

  OR FOUR MEN SOMETIMES NEEDED TO CHECK THE WEAPONS SYSTEM

  ON THE AIRCRAFT. STUDENTS CAN REPEATEDLY PRACTICE TROUBLE—

  SHOUTING EXERCISES WITHOUT INSTRUCTOR ASSISTANCE.

- THE SIMULATORS EMPHASIZE TASK PERFORMANCE MINIMIZING
  DEPENDENCY ON THEORY TO DEVELOP JOB PROFICIENCY.
- FLIP TO IN ADDITION, THE SIMULATORS ALLOW TRAINING WITHOUT TYING UP AN ACTUAL AIRCRAFT.

### (TRANSLATION)

CURRENTLY, THE SIMULATORS ARE LOCATED AT THE US ARMY
TRANSPORTATION SCHOOL; HOWEVER, THEY ARE BEING USED
INCREASINGLY IN THE FIELD BY UNITS FOR SKILLS QUALIFICATION
TESTS.

SLIDE 6 THE MAJOR DISADVANTAGE OF THIS SYSTEM IS THE HIGH

INITIAL COST ASSOCIATED WITH THE SIMULATORS. HOWEVER, THEY

MAY RESULT IN SIGNIFICANT LONG TERM SAVINGS.

(TRANSLATION)

IS THE MOTIVATION OF THE REPAIRER AND MAINTAINING HIS JOS

SATISFACTION. UNLIKE THE CREW CHIEF WHO CAN FLY IN THE

AIRCRAFT THAT HE MAINTAINS, THE ARMAMENT REPAIRER SELDOM

SEES THE BENEFIT OF HIS EFFORTS. WE HAVE FOUND IT IMPORTANT

TO INCLUDE THE ARMAMENT REPAIRER AT THE FIRING RANGE

WHERE HE CAN SEE THE WEAPONS PERFORM AS WELL AS ASSIST

IN ON-THE-SPOT MAINTENANCE. THIS HELPS PREVENT THE

### (TRANSLATION)

DEFLATION OF HIS MORALE.

THE LAST AREA WE WILL ADDRESS WITH ARMAMENT REPAIRER

TRAINING IS SELECTION OF THE CAMBIDATE FOR THAT TRAINING.

WITH THE INCREASED USE OF ELECTRONIC COMPONENTS IN OUR

NEWER WEAPONS SYSTEMS IT BECOMES INCREASINGLY IMPORTANT

THAT THE ARMAMENT REPAIRER HAS SOME APTITUDE IN THE ELECTRICAL FIELD. A PREREQUISITE FOR THE US HELICOPTER.

MISSILE SYSTEMS REPAIRER COURSE IS A HIGH ELECTRICAL APTITUDE.

### (TRANSLATION)

SLIDE 9 THE MISSILE SYSTEMS REPAIRER GETS FOUR WEEKS OF

ELECTRICAL TRAINING IN ADDITION TO THE TRAINING THE WEAPONS

SYSTEMS REPAIRER RECEIVES. THIS IS NECESSARY SO THAT THE

STUDENT IS ABLE TO COMPREHEND THE ELECTRICAL THEORY HE MUST

KNOW IN ORDER TO UNDERSTAND THE OPERATION OF THE SYSTEM.

WE HAVE FOUND THAT WITHOUT THE PREREQUISITE HIGH APTITUDE, THE

ATTRITION RATE BECOMES FAR TOO GREAT FOR THIS TRAINING.

(TRANSLATION)

THE US ARMY HAS FOUND THESE CONSIDERATIONS IMPORTANT IN THE TRAINING OF ARMAMENT REPAIRERS. WE WILL NOW TAKE TIME FOR YOU TO DISCUSS THIS SUBJECT AMONG YOURSELVES AND FORMULATE YOUR CONCLUSIONS AND RECOMMENDATIONS.

I WILL BE AVAILABLE IF THERE ARE ANY QUESTIONS.

(TRANSLATION)

CLIDE 1

THE LAST AREA WE WILL DISCUSS TODAY IS THE TRAINING OF NON-AVIATION PERSONNEL. WE WILL DISCUSS TWO PROGRAMS THE US ARMY HAS CREATED TO EDUCATE MON-AVIATION PERSONNEL IN AVIATION RELATED SUBJECTS. OUR FORMAT FOR THIS PERIOD WILL REMAIN THE SAME AS WE HAVE BEEN USING. IF YOU HAVE ANY QUESTIONS, PLEASE ASK THEM IMMEDIATELY SO THAT WE CAN CLARIFY THEM BEFORE WE PROCEED.

### (TRANSLATION)

n priedzes au drawie pokonikator dan soldani daliedzoga projektora analizate kanalizate 
ALONG WITH THE INCREASED AVIATION PERSONNEL
TRAINING REQUIRED WITH A RAPID EXPANSION OF AVIATION,
THE NEED ALSO ARISES FOR THE EDUCATION OF NON-AVIATION
PERSONNEL AS WELL. WITHOUT THIS EDUCATION, A DANGEROUS
SITUATION IS CREATED THAT CAN RESULT IN THE LOSS OF

LIVES AND VALUABLE AVIATION ASSETS.

SLIDE 2

TWO OF THE METHODS THE US ARMY IS CURRENTLY USING TO

HANDLE THIS EDUCATION PROCESS ARE AIR ASSAULT SCHOOL

TRAINING AND PATHFINDER TRAINING.

### (TRANSLATION)

THE AIR ASSAULT SCHOOL IS A SEVEN DAY SCHOOL RUN

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AIR ASSAULT SCHOOL IS A SEVEN DAY SCHOOL RUN

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AIR ASSAULT SCHOOL RUN

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SLIDE 3

DURING THE COURSE, STUDENTS STUDY RIGGING AND EXTERNAL

TRANSPORT OPERATIONS. EXPERIENCE HAS SHOWN THE

NECESSITY OF THIS TRAINING ON MANY OCCASIONS.

SLIDE 3A

Le plish & only

right

EVEN AFTER ALL THE EXPERIENCE WE GAINED IN VIETNAM WITH

SLING LOAD OPERATIONS WE STILL HAVE INCIDENTS OF

LOADS BEING DROPPED OR HAVING TO BE JETISONED BECAUSE

THEY WERE ENDANGERING THE AIRCRAFT DUE TO IMPROPER RIGGING. EXPENSIVE INCIDENTS SUCH AS THIS CAN BE AVERTED WITH THE TYPE OF TRAINING THE AIR ASSAULT SCHOOL IS CONDUCTING IN THESE TECHNIQUES.

### (TRANSLATION)

THE STUDENTS ARE ALSO TRAINED IN SELECTION, MARKING,

AND CONTROL OF LANDING AND PICKUP ZONES USING

PATHFINDER TECHNIQUES.

THEY BECOME FAMILIAR WITH THE TROOP LADDER BY

CLIMBING INTO THE HOLD OF A CH-47 HELICOPTER AS IT

HOVERS 40 TO 50 FEET OFF THE GROUND.

SLIDE 4, 3 FLIP30 THEY STUDY RAPPELLING

3 FLIP 3D AND THEORY AND EXECUTION OF DAY AND NIGHT COMBAT

ASSAULTS.

SAFETY IS STRESSED THROUGHOUT THE COURSE. SAFETY

BRIEFINGS ARE A STANDARD PART OF ALL CLASSES. STUDENTS.

ARE SCHOOLED IN ACCIDENT PREVENTION PROCEDURES TO BE

ADHERED TO WHEN WORKING WITH HELICOPTERS. THIS TRAINING

PREPARES THE COMBAT SOLDIER FOR HELICOPTER UTILIZATION

TECHNIQUES SO THAT VALUABLE ASSETS ARE PRESERVED AND

USED EFFICIENTLY.

### (TRANSLATION)

SLIDE 5

FOR A WHILE IT WAS THOUGHT THAT TRAINING OF THE NON-AVIATION SOLDIER IN TECHNIQUES TAUGHT AT THE AIR ASSAULT SCHOOL WAS ADEQUATE TO MEET THE US ARMY PATHFINDER REQUIREMENTS. THE ARMY EVEN WENT SO FAR AS TO CLOSE DOWN THE PATHFINDER SCHOOL AT FORT

BENNING, GEORGIA.

### (TRANSLATION)

HOWEVER, COMMANDERS OF TACTICAL UNITS RAPIDLY LET IT

BE KNOWN THAT THERE WAS A-DEFINITIVE NEED FOR THE

SPECIALIZED TRAINING THAT THE PATHFINDER SCHOOL

PROVIDED. THESE COMMANDER'S IN THE PAST HAD BEEN

FORCED TO ABORT MISSIONS DURING TACTICAL TRAINING

BECAUSE OF INCIDENTS INVOLVING UNSKILLED PERSONNEL ON

THE GROUND.

SLIDE JA

A SKILLED PATHFINDER WOULD HAVE FREVENTED SUCH INCIDENTS AS GUIDING 15 HELICOPTERS INTO A LANDING ZONE CAPABLE OF LANDING 10 HELICOPTERS. THESE TYPE INCIDENTS NOT ONLY CAUSE MISSION FAILURE BUT ALSO ENDANGER LIVES AND AVIATION ASSETS. THE

COMMANDERS FELT THAT A KNOWLEDGABLE, SKILLED,

SPECIALIST TO PREPARE FOR AND GUIDE HELICOPTERS TO

UNFAMILIAR LZ'S DURING DARKNESS WAS A KEY ELEMENT

IN SUCCESSFUL MISSION ACCOMPLISHMENT.

### (TRANSLATION)

FOR THIS REASON THE ARMY REOPENED THE PATHFINDER

SCHOOL AND UPDATED ITS PROGRAM OF INSTRUCTION TO KEEP IT CURRENT WITH MODERN AVIATION TACTICS.

THE PROGRAM OF INSTRUCTION NOW INCLUDES TRAINING ORIENTED TO MID AND HIGH INTENSITY ENVIRONMENTS.

TACTICAL INSTRUMENT OPEARTIONS ARE TAUGHT, ALONG WITH NAP-OF-THE-EARTH MAP READING. MINIMUM RADIO TRANSMISSIONS ARE STRESSED WITH MAXIMUM USE OF LIGHT AND HAND SIGNALS TO COUNTER THE ELECTRONIC

SLIDE &

MARFARE THREAT. THE STUDENT IS TRAINED TO BECOME

AN EXPERT AT CLEARING LANDING ZONES, MARKING TOUCHDOWN

POINTS, AND GUIDING AIRCRAFT. THIS TRAINING PRODUCES

THE SPECIALIST THAT AN AVIATOR CAN TRUST TO GUIDE HIM

TO MISSION ACCOMPLISHMENT EVEN UNDER HARGINAL VISIBILITY

CONDITIONS.

### (TRANSLATION)

AND THE AIR ASSAULT SCHOOL ARE EFFECTIVE WAYS TO

TRAIN MON-AVIATION PERSONNEL. THEY HAVE PROVEN TO BE

COST EFFECTIVE METHODS TO PRESERVE OUR AVIATION ASSETS.

SIMILAR PROGRAMS SHOULD BE CONSIDERED BY ROKA TO=HAVE

BOTH SHORT AND LONG RANGE APPLICATIONS. WE WILL NOW

TAKE SOME TIME FOR YOU TO DISCUSS THESE CONSIDERATIONS

AMONG YOURSELVES AND TO PERMIT YOU TO FORMULATE

YOUR CONCLUSIONS AND RECOMMENDATIONS. I WILL BE

AVAILABLE IF THERE ARE ANY QUESTIONS REGARDING THE

PRESENTATIONS.

(TRANSLATION)

## TRAINING WORKSHOP TWO

## AVIATOR AND ENLISTED TRAINING

**AVIATION TRAINING** 

INITIAL ENTRY

**QUALIFICATION TRACKS** 

**TRANSITION** 

**ENLISTED TRAINING** 

AIRCRAFT/COMPONENT REPAIR

ARMAMENT REPAIR

**AVIATION RELATED TRAINING** 

# INITIAL ENTRY-ROTARY WING TRAINING

## DNHTTL MITIAL ENTRY-ROTARY WING

Systems bevelophent process No Tructional

INVERSE PLANNING SEQUENCE

TIME LINE GRAPH

## INITIAL ENTRY-ROTARY WING TRAINING

INSTRUCTIONAL SYSTEMS DEVELOPMENT PROCESS

INSTRUCTIONAL SYSTEMS DEVELOPMENT PROCESS

DEVELOPMENT DESIGN ANALYSIS IMPLEMENTATION CONTROL

Arobined Vinland School School School School School

2. AIRCRAFT REQUIREMENTS

3. ACADEMIC CLASSROOM REQUIREMENTS

4. BILLETING, MESSHALL, LIFE SUPPORT REQUIREMENTS

5. AIRFIELD SUPPORT REQUIREMENTS

6. LOGISTICS REQUIREMENTS

7. TRANSPORTATION REQUIREMENTS

8. MAINTENANCE /REFIIEL RENIINEMENTS

. Landerston between the second second second

### INSTRUCTOR REQUIREMENTS

HOW MANY ADDITIONAL INSTRUCTORS?
WHAT TYPE?
PLATFORM
PILOTS

ANALYSIS

WHO IS ALREADY QUALIFIED? HOW MANY MUST BE TRAINED?

DESIGN PLP 7A

DEVELOP INSTRUCTOR PILOT MOI DEVELOP PLATFORM INSTRUCTOR MOI

DEVELOP LL 78

TRAIN PLATFORM INSTRUCTORS IN METHOD OF INSTRUCTION TRAIN PILOTS IN METHOD OF INSTRUCTION

IMPLEMENT ALT TO CONTROL His 70

ACCION DISTENDI INCTENDISTREE TO EVALUATE AND ASSIGN PILOTS TO DOFT <u>Appenditionshipsing and Appenditive the Standard was to separate the second of the second se</u>

NITIAL ENTRY-ROTARY WING TRAINING

INSTRUCTIONAL SYSTEMS DEVELOPMENT PROCESS

INVERSE PLANNING SEQUENCE

### INVERSE PLANNING SEQUENCE OPEN SHELL FIELD

DETERMINE COMPLETION DATE

27 HOVERIBER AGE 94

TASK TO BE COMPLETED

ORDER AND INSTALL AUTOMETED #45 78

DATA PROCESSING TERMINALS

TIME TO ACCOMPLISH TASK

10 MONTHS 146 9C

DATE ACTION MUST BE INITIATED

27 JANUARY flip 90

### INSTALL ADP EQUIPMENT

10 MONTHS

**BUILD MAINTENANCE HANGAR** 

9 MONTHS 2 WEEKS

INSTALL OVERHEAD CRANE

MONTH

10 MONTHS 2 WEEKS

TOTAL

A CONTRACTOR OF THE PROPERTY OF THE PARTY OF

INITIAL ENTRY-ROTARY WING TRAINING

INSTRUCTIONAL SYSTEMS DEVELOPMENT PROCESS

INVERSE PLANNING SEQUENCE

TIME LINE GRAPH

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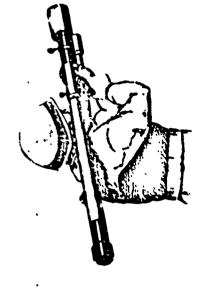
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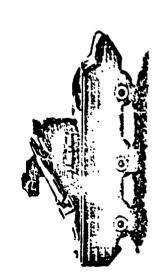
QUALIFICATION TRACKING OF INITIAL ENTRY ROTARY WING STUDENTS

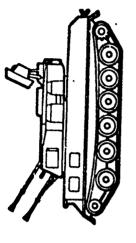
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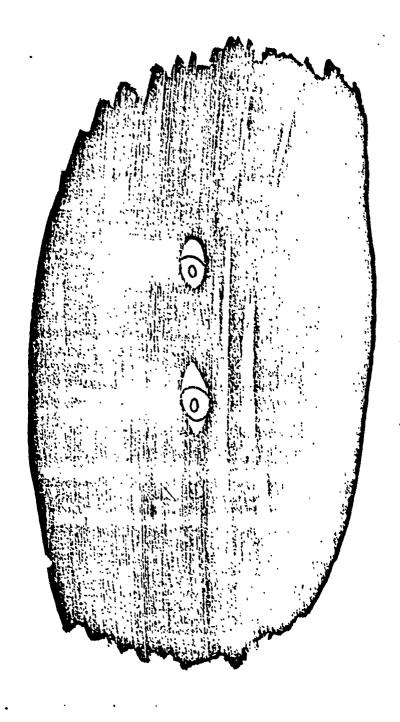


# SOPHISTICATED ANTI-AIRCRAFT WEAPOHRY

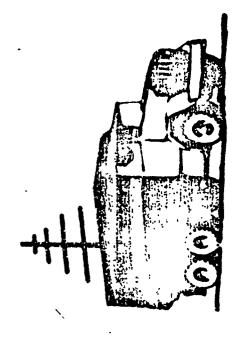


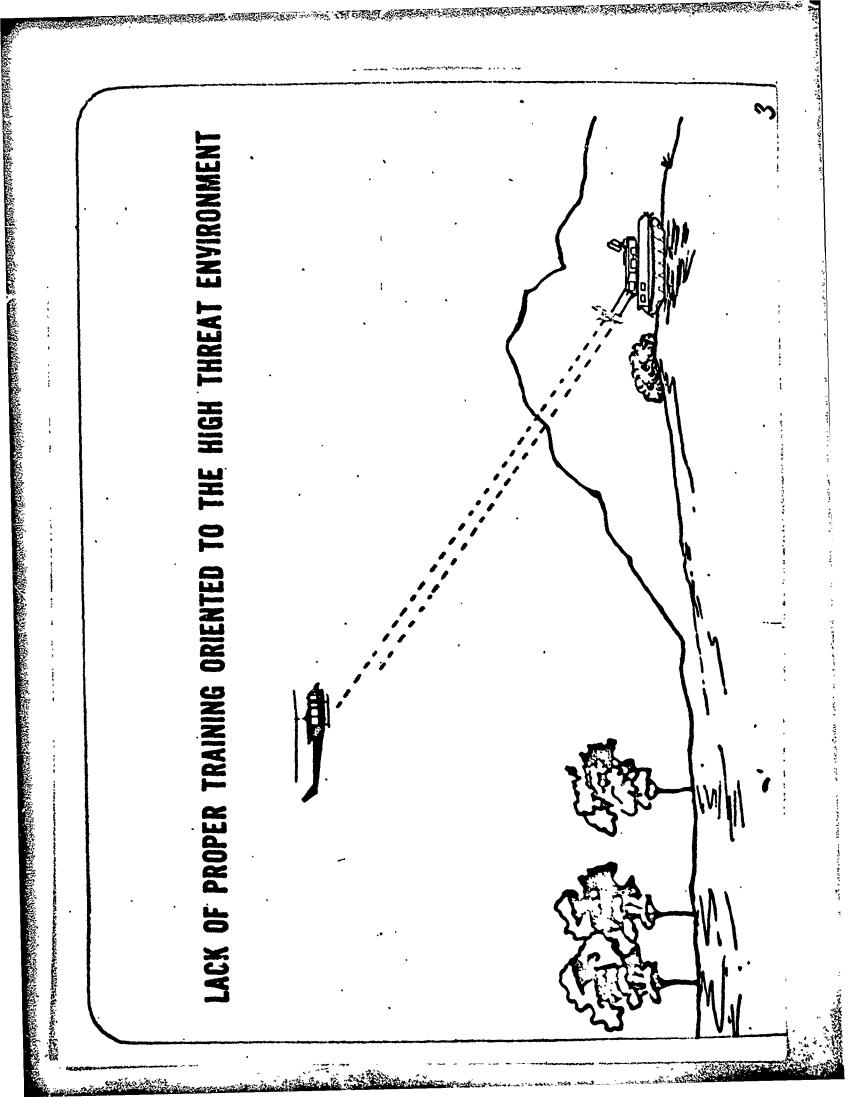


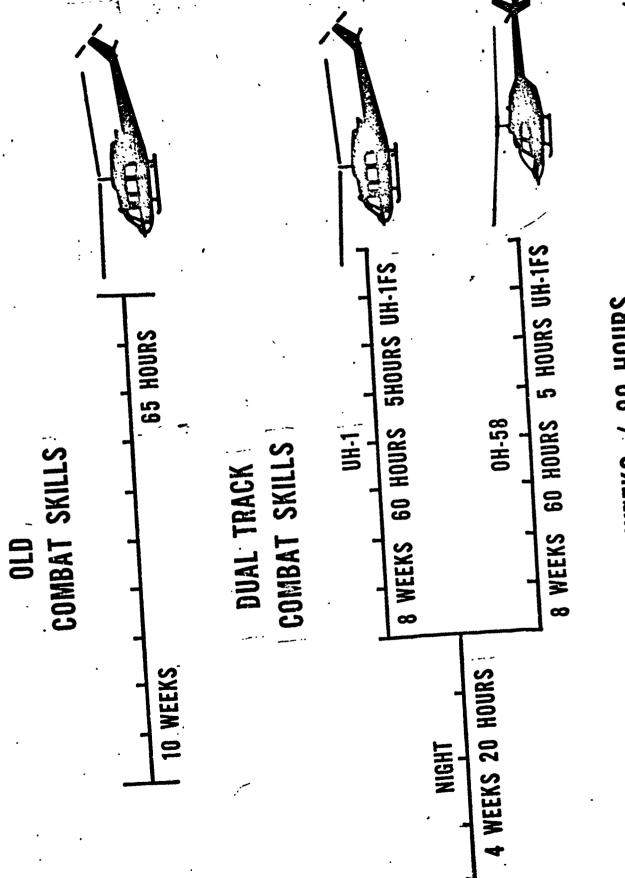
# EXTENSIVE NIGHT OPERATION CAPABILITIES



# EXTENSIVE ELECTRONIC WARFARE CAPABILITIES







12 WEEKS / 80 HOURS

## OJT INSTRUCTION INADEQUACIES

- 1. INFLUENCED BY LOCAL OPINIONS
- LACKING INSIGHT AND UNDERSTANDING OF AEROSCOUT ROLE
- 3. INCOMPLETE UNDERSTANDING OF THREAT DICTATED TRAINING

### AH-1G/MULTITRACK

#### 184.5/35

NSTRUMENT 20 Hrs. UH-1	8 WEEKS
35 Hrs. UH-1FS	
CONTACT 25 Hrs. UH-1	4 WEEKS.
· ·	KS;
PRIMARY 50 Hrs.	B WEEKS

## COMBAT SKILLS & TRANSITION

GUNNERY/TACTICS 30 Hrs.	WEEKS,
NIGHT FLT (NVG/NH) 22 Hrs. AH-15	3 WEEKS
TERRAIN FLT 15 Hrs.	2 WEEKS
AH-1 TRANSITION (22.5 Hrs.	3 WEEKS

12 WEEKS

### CH-47 MULTITRACK

#### 137.7/50

20 Hrs. 35 Hrs. UH-1FS	8 WEEKS
CONTACT 25 Hrs. UH-1	4 WEEKS
PRIMARY 50 Hrs.	8 WEEKS

## COMBAT SKILLS & TRANSITION

	•
TERRAIN FIT 10.0 Hrs.	2 WEEKS
NIGHT (N.H. & NVG) 14.4 rs. 3.0 Hrs.	4 WEEKS
18.3 Hrs.:	6 WEEKS

12 WEEKS

.

TYPE	
BY YEAR/BY	
Y 8Y	
DENSITY	
AIRCRAFT	

	1978	1979	1980	1981	1982	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	41	80	138	138	247	
CII-47	0	0	0	0	16	
AII-11/6	7	_	7	7	34	
200 M-D	66	123	147	191	187	,
0-1	230	210	188	158	130	
N-6A	46	7	S	30	24	
OH-23	79	79	11	99	58	
TOTAL	505	240	586	999	969	,
- DOTABY WING ACCETS I	TC INCI IIUE	HEI HEE ON-WARD FID AND TRANCER	FID AND	TPANCE	<u>a</u>	· · · · · · · · · · · · · · · · · · ·

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## TRANSITION TRAINING

• FIXED WING TO ROTARY WING My 1A

ROTARY WING TO ROTARY WING 44 18

TYPE	
YEAR/BY	
8	
DENSITY	
AIRCRAFT	

•	1978	1979	1980	1981	1982
CH-1H	41	98	138	138	247
CH-47	•	0	0	0	16
AH-11/6	7	7	_	1	34
500 M-D	66	123	147	167	187
1-0	230	210	188	158	130
U-6A	46	41	35	30	24
OH-23	79	79	71	99	53
TOTAL	502	540	586	999	969

- ROTARY WING ASSETS INCLUDE ON-HAND, FIP AND TRANSFER

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## US ARMY AVIATION STUDY CONCLUSION

ROTARY WING QUALIFICATION COURSE WOULD

INCREASE FLEXIBILITY OF AVIATION ASSIGNMENTS.

INCREASE EFFECTIVENESS IN PERFORMANCE OF ARMY AVIATION'S ROLE

## US ARMY AVIATION STUDY

# 11, 09 0 19\$

#### RECOMMENDATIONS

WING QUALIFICATION COURSE SHOULD BE IMPLEMENTED ROTARY

THIS TRAINING SHOULD NOT BE PROVIDED TO SHORT

AVIATORS.

## SHOLUTIONSHOO

PILOTS ANTHUM ROLDNY SY TREINING HIP 4A2 RATED TACTICAL 

WILL THE PRESENT CONTINGENT OF FIXED WING AVIATORS WITH THE PLANNED REDUCTION OF THE FIXED WING FLEET BE ADEQUATE WITH PROJECTED ATTRITION/ RETENTION 1. WHY CONTINUE TO TRAIN FIXED WING AVIATORS? RATES?

- AVIATORS WHAT IS THE FEASIBILITY OF THE AIR FORCE 2. IF NECESSARY TO CONTINUE TRAINING FIXED WING CONDUCTING SOME OR ALL OF THAT TRAINING?
- 3. IS IT FEASIBLE TO TRACK FIXED WING AVIATORS AND 40T ROTARY WING QUALIFY THEM AT ALL?

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TRANSITION TRAINING

FIXED WING TO ROTARY WING

ROTARY WING TO ROTARY WING

### TRAINING TRANSITION

## UNIT TRAINING CONSIDERATIONS

PRODUCES FULLY QUALIFIED PILOT

DEGRADES UNIT READINESS STATUS

DEGRAPES AVRILABLE TRAINING THRE

STANDARDIZATION A PROBLEM

PARILLE AIDS A PROBLEM COST EFFECTIVE

JAHAMPERED BY SERVICE SCHOOL BACKLOG

### ENLISTED TRAINING

AVIATION PERSONNEL 1/4014

NON AVIATION PERSONNEL 144 18

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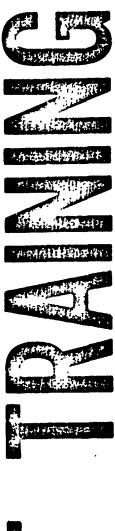
### **ENLISTED TRAINING**

### **AVIATION PERSONNEL**

## AIRCRAFT REPAIR TRAINING

NON AVIATION PERSONNEL

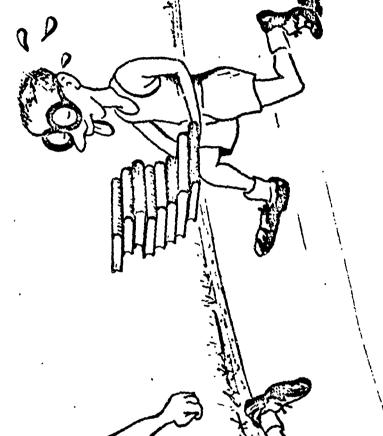






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## 1. SHIFT TRAINING 2. SELF PACED LEARNING





INSTRUCTION WHICH ALLOWS

THE STUDENT TO PROGRESS AT HIS OWN PACE

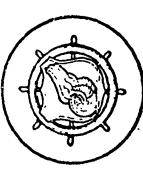
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## 1. SHIFT TRAINING 2. SELF PACED LEARNING

CONSOLIDATION

00 FT RUCKER FT GORDON FT JACKSON FT EUSTIS

AIRCRAFT REPAIR FT RUCKER T EUSTIS COMPONENT REPAIR FT EUSTIS



CURRENT



PROGRAM OF INSTRUCTION



FT EUSTIS

PROPOSED

FT RUCKER

INSTRUCTORS



STANDARDIZED
MAINTENANCE PRACTICES
& TRAINING

#### 

1. CONSOLIDATION

2. SHIFT TRAINING

. SELF PACED LEARNING

#### **ENLISTED**

## ARMAMENT REPAIRER

#### TRAINING

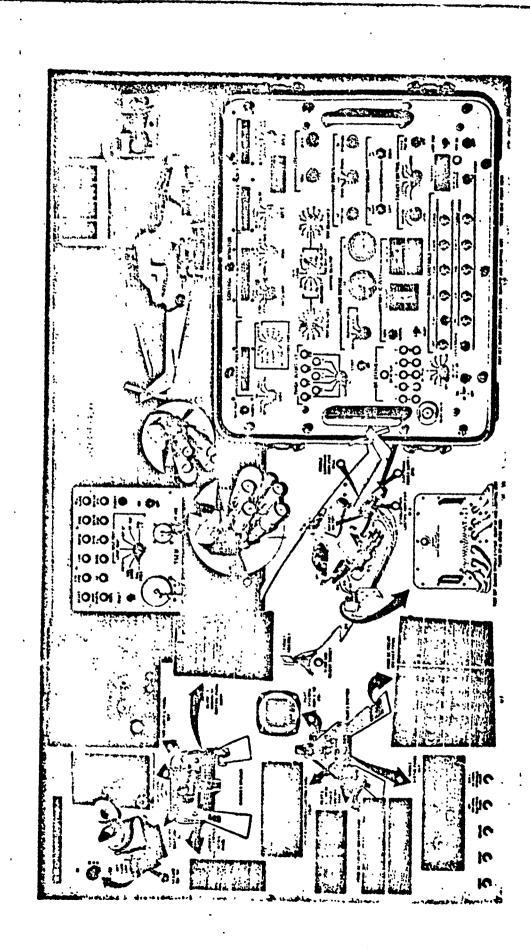
## ARMAMENT REPAIRER TRAINING

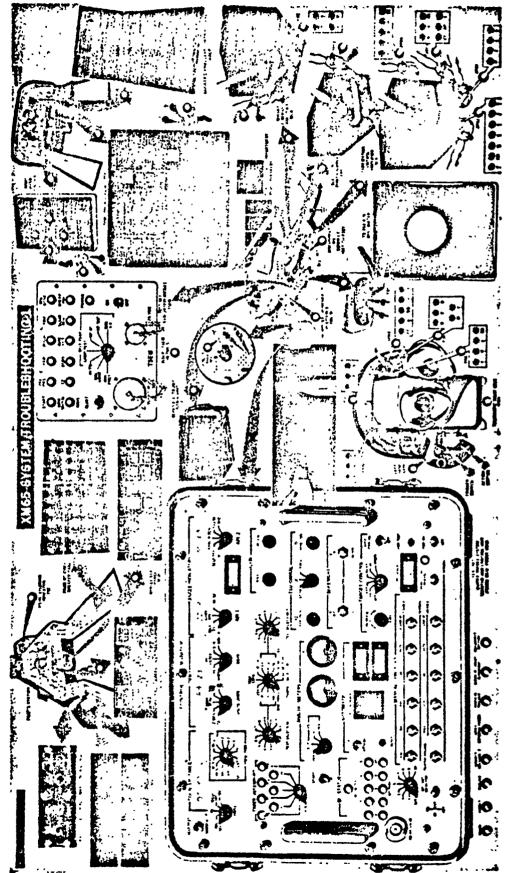
SIMULATORS

MORALE

SELECTION

#### PROCEDURES (M65) OPERATIONAL SYSTEM TOW

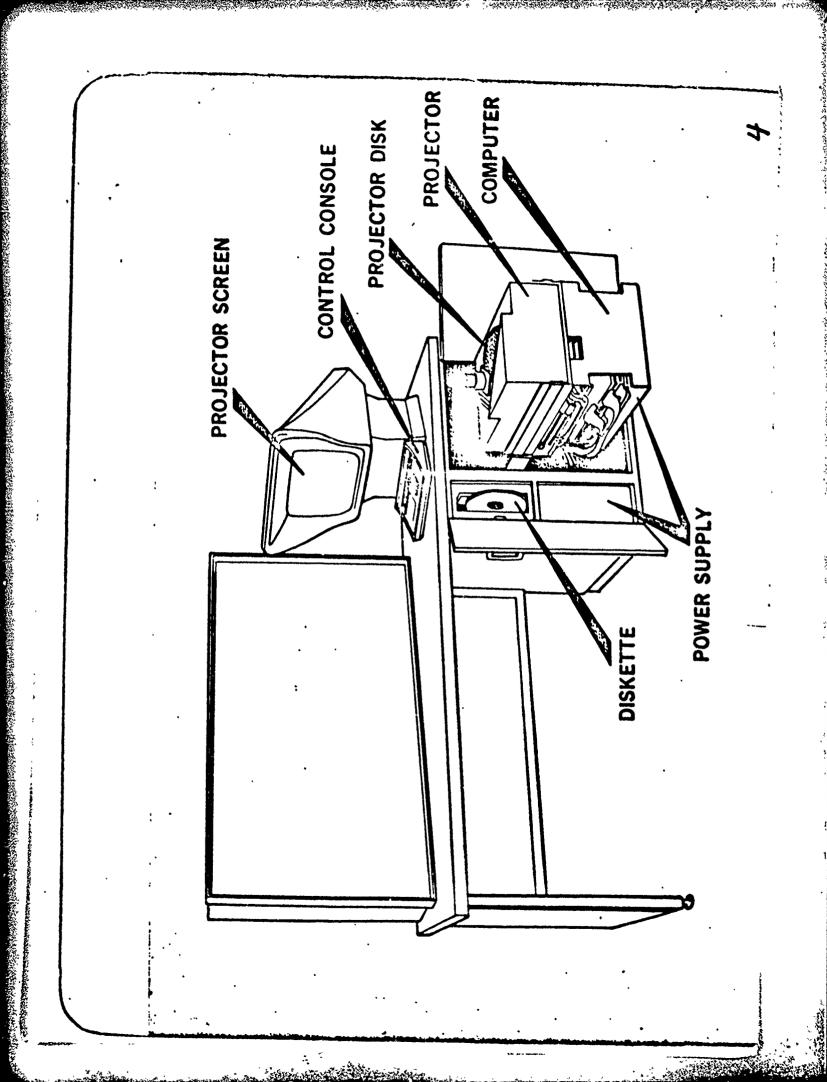




# MISSILE COMMAND SUBSYSTEM DIAGNOSTICS

# ARMAMENT SUBSYSTEM (M28A1E1) PROCEDURES

# SYSTEM ELECTRICAL POWER SUPPLY (GROUND/AIR)



### SIMULATOR ADVANTAGES

- 1. INCORPORATE DIAGNOSTIC EQUIPMENT
- NO DAMAGE TO EXPENSIVE COMPONENTS/TEST EQUIPMENT UP 5A
- 3. OPERATED BY ONE PERSON LLE 'S B
- 4. PERFORMANCE ORIENTED pap 5C
- FREES AIRCRAFT FOR USE ELSEWHERE 1845 5 D

## SIMULATOR DISADVANTAGE

**EXPENSIVE** 

# ARMAMENT REPAIRER TRAINING

SIMULATORS

MORALE

# ARMAMENT REPAIRER TRAINING

SIMULATORS

MORALE

SELECTION

### 69 MISSILE SYSTEMS REPAIRER

19 WEEKS

### **200** WEAPONS SYSTEMS REPAIRER

15 WEEKS

### ENLISTED TRAINING

AVIATION PERSONNEL

NON-AVIATION PERSONNEL

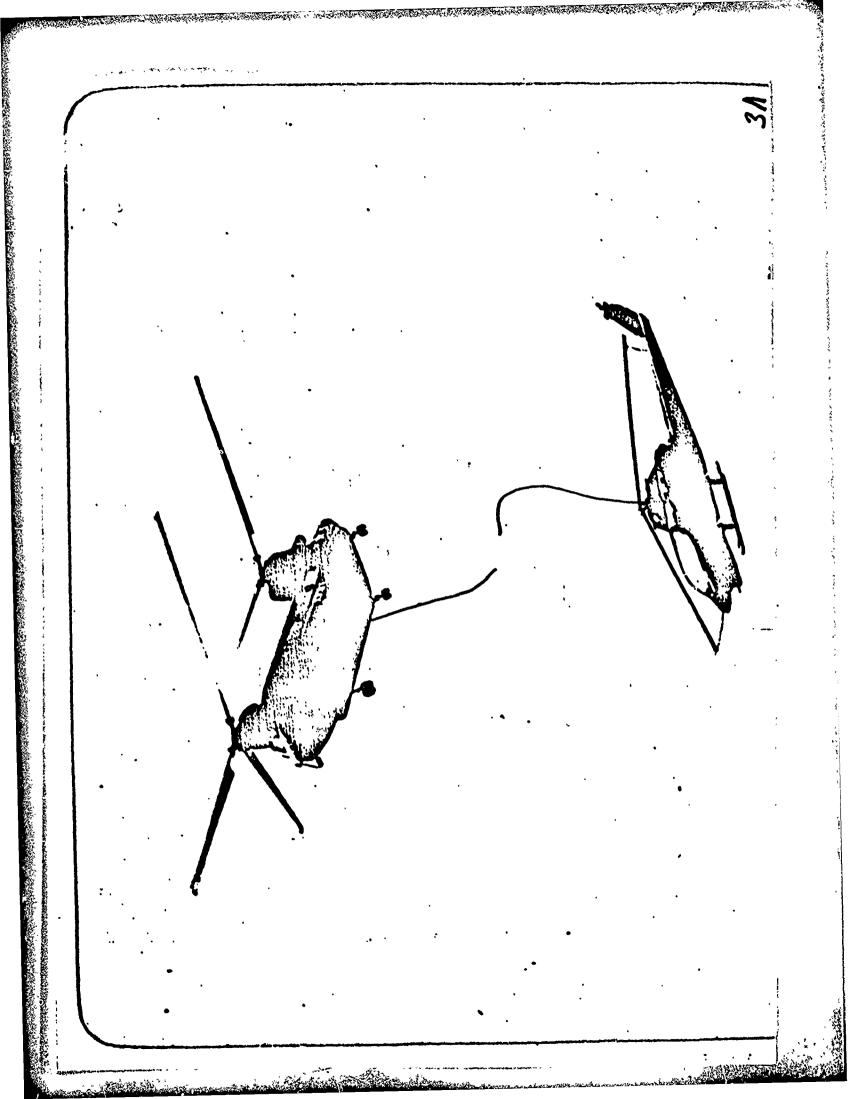
## AIR ASSAULT SCHOOL TRAINING

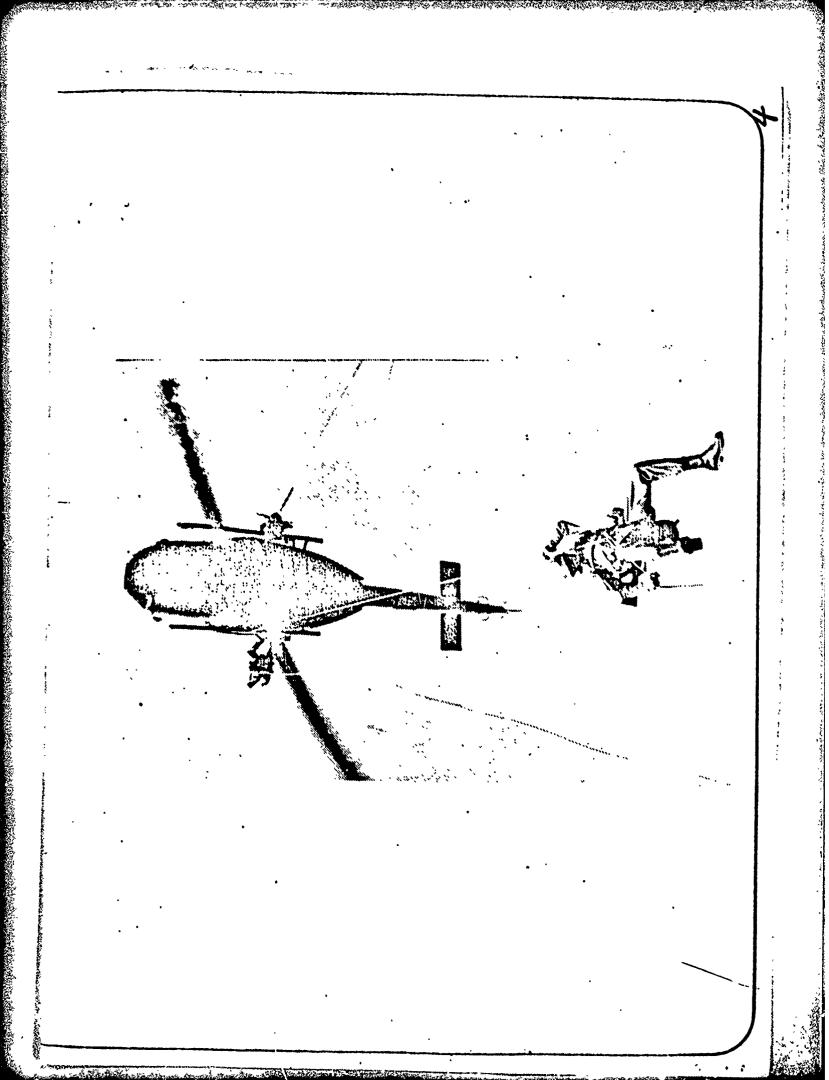
PATHFINDER TRAINING



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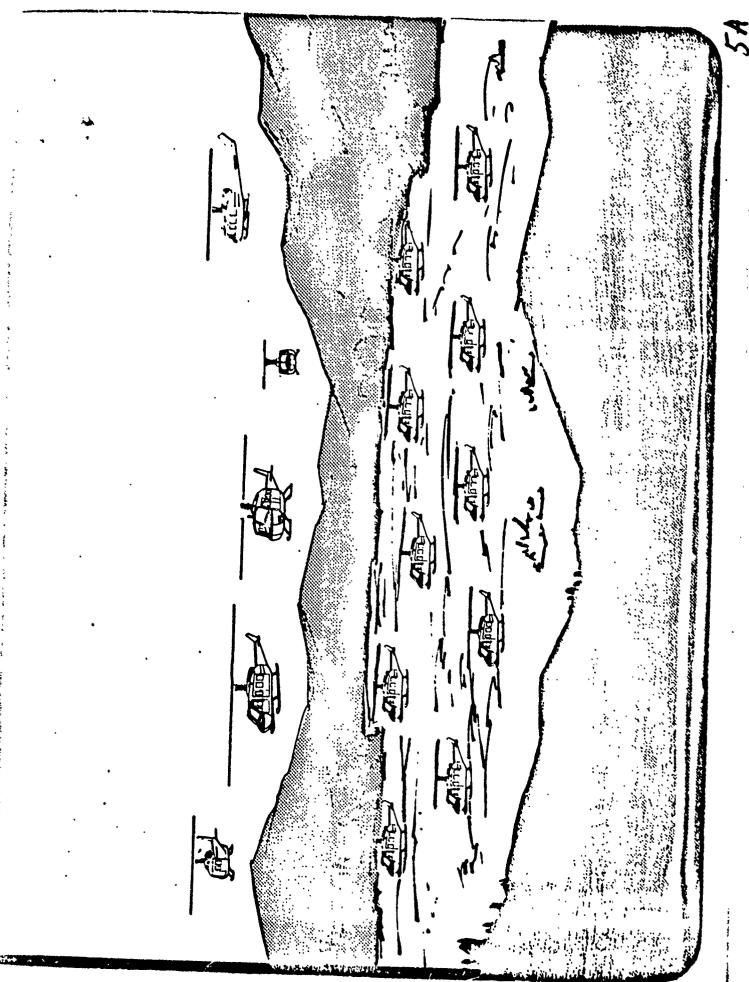
- I EXTERIAL TRAISPORT OPERATIONS
- 2. PARTER TECHNETS / LA 3A
- 3. TREEP LABBER USE fly 38
- 4. BREDELLING fly 3C
- 5. COMBAT ASSAULTS fly 3D











## PATHFINDER SCHOOL TRAINING

MID AND HIGH THREAT ORIENTED TRAINING

2. TACTICAL INSTRUMENT OPERATIONS

3. NAP OF THE EARTH MAP READING

ELECTRONIC COUNTERMEASURE TECHNIQUES

GENTLEMEN:	I	AM	
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WELCOME TO THE THIRD AND FINAL TRAINING WORKSHOP.

LEAD IN OFF

SLIDE 1 ON

A FEW SHORT YEARS AGO, ON THIS PENINSULA, THE POTENTIAL OF HELICOPTERS IN COMBAT WAS JUST BEING RECOGNIZED. THE KOREAN WAR IN THE EARLY 1950'S SAW THE VERY EFFECTIVE USE OF HELICOPTERS FOR ARTILLERY ADJUSTMENT AND MEDICAL EVACUATION. UNITED NATIONS SOLDIERS WERE SPARED THE AGONY OF DELAYED MEDICAL ATTENTION THAT WAS TYPICAL IN PREVIOUS WARS.

### (TRANSLATION)

SLIDE 2 ON

NOW LESS THAN THIRTY YEARS LATER, THE USE OF THE HELICOPTER AS A MAJOR ELEMENT OF YOUR NATION'S DEFENSE IS A NEAR REALITY. I KNOW YOU GENTLEMEN ARE WELL AWARE OF THIS FACT. I MENTION IT TO FURTHER IMPRESS YOU WITH

THE VAST DEVELOPMENT OF THE HELICOPTER IN RECENT

YEARS AND ITS POTENTIAL AS A TACTICAL VEHICLE WE

ARE ALL WORKING TO TAKE MAXIMUM ADVANTAGE OF THE

HELICOPTER'S POTENTIAL. THE TRAINING WORKSHOPS ARE

ESTABLISHED TO ASSIST YOU IN PREPARING A TRAINING

PROGRAM TO ACCOMPLISH THAT GOAL.

### (TRANSLATION)

SLIDE 3 ON

THIS VIEW GRAPH WILL PROVIDE A QUICK REVIEW OF
THE FIRST TWO DAY'S TRAINING WURKSHOPS. (PAUSE) I
SUGGEST YOU REFER BACK TO THE INSTRUCTIONAL SYSTEMS
DEVELOPMENT PROCESS AS WE DISCUSS TODAY'S SUBJECTS.

(TRANSLATION)

SLIDE 4 ON

1

TODAY'S ISSUES WILL BE TACTICAL AVIATION TRAINING,
AVIATION SAFETY AND ACCIDENT PREVENTION, AVIATION

STANDARDIZATION, AND AVIATION TRAINING IN SERVICE

SCHOOLS. EACH ISSUE WILL BE PRESENTED SEPARATELY.

REMEMBER THIS DISCUSSION IS PRESENTED TO

STIMULATE YOUR THINKING AND PROVIDE THE BASIS FOR

AN OPEN EXCHANGE OF IDEAS. IT IS NOT DESIGNED TO

PROVIDE A SOLUTION FOR YOUR TRAINING REQUIREMENTS.

THAT GENTLEMEN, IS YOUR PROJECT AND WHY YOU ARE HERE

TODAY.

### (TRANSLATION)

SLIDE 4 OFF

PLEASE FEEL FREE TO ASK QUESTIONS DURING THE PRESENTATION. THERE IS A GREAT DEAL OF INFORMATION WE WILL DISCUSS IN A SHORT TIME.

SLIDE 5 ON

BEFORE WE CONTINUE, ONE VERY IMPORTANT POINT SHOULD BE MADE. TRAINING, ACCIDENT PREVENTION AND STANDARDIZATION, ALTHOUGH DISCUSSED SEPARATELY, DEPEND UPON EACH OTHER. TRAINING, DONE PROPERLY, IS DONE TO A PRESCRIBED STANDARD AND HELPS TO PREVENT ACCIDENTS. EFFECTIVE STANDARDIZATION INSURES PROPER TRAINING AND THAT PREVENTS ACCIDENTS. ACCIDENT PREVENTION AWARENESS CHALLENGES EVERYONE TO BE PROFESSIONAL: IT ENHANCES CONSERVATION OF MANPOWER AND EQUIPMENT. AS WE PROCEED THROUGH TODAY'S ISSUES THIS WILL BECOME APPARENT.

### (TRANSLATION)

SLIDE 5 OFF THIS PRESENTATION IS DEVELOPED AROUND THE INFORMATION IN YOUR DATA BOOK.

DOES EVERYONE HAVE A DATA BOOK? (HOLD BOOKLET UP FOR IDENTIFICATION).

DOES EVERYONE HAVE A TRAINING WORKSHOP BOOKLET?

(AGAIN IDENTIFY BOOKLET).

PLEASE OPEN YOUR WORKSHOP BOOKLET TO PAGE 13.

YOU MAY USE THIS TO FOLLOW THE DISCUSSION AND FOR TAKING

NOTES. YOU MAY KEEP THE BOOKLET.

### (TRANSLATION)

SLIDE 6 ON

THE FIRST ISSUE FOR DISCUSSION IS TACTICAL

TRAINING. DURING THE PRESENTATION WE WILL DISCUSS

TERRAIN FLIGHT AND ITS IMPORTANCE AS THE FUNDAMENTAL

TACTICAL AVIATION SKILL. WE WILL DISCUSS NIGHT AND

TACTICAL INSTRUMENT TRAINING AS A MEANS OF INCREASING

OUR BATTLEFIELD CAPABILITY. THEN MOUNTAIN FLYING

WILL BE DISCUSSED. OPERATIONS ON THE KOREAN

PENINSULA WILL DEMAND THE ABILITY I :PLOY.

HELICOPTERS IN EXTREMELY RUGGED TERRAL!! LADER A

VARIETY OF WEATHER CONDITIONS.

### (TRANSLATION)

THIS PART OF THE TACTICS PRESENTATION WILL PROBABLY

TAKE CLOSE TO ONE HOUR AND IT MAY BE WELL TO TAKE

A SHORT BREAK AFTER DISCUSSING THESE FIRST FOUR

SUBJECTS. AFTER THE BREAK, WE WILL FINISH OUR

DISCUSSION OF HELICOPTER GUNNERY, AIRSPACE MANAGEMENT,

AIR TO AIR COMBAT, AIRCRAFT SURVIVABILITY EQUIPMENT,

AND A SHORT DISCUSSION OF HOW SOME OF THIS TRAINING

IS PROVIDED TO STUDENT AVIATORS IN FLIGHT SCHOOL.

SLIDE 7 ON

AS THE HELICOPTER HAS BECOME A MORE EFFECTIVE COMBAT VEHICLE, THE THREATS FACED BY THE HELICOPTER HAVE BECOME MORE DEADLY. DURING THE EARLY EMPLOYMENT OF HELICOPTERS ON THE BATTLEFIELD, AIR DEFENSE WEAPONS WERE GENERALLY LIMITED TO SMALL ARMS WEAPONS. FLYING AT 1500 FEET ALTITUDE WAS A SUITABLE PROCEDURE, AND ALLOWED THE PILOT THE FIELD OF VISION TO SEEK OUT TARGETS.

### (TRANSLATION)

SLIDE 7A ON TODAY WE SEE THE USE OF INCREASINGLY SOPHISTICATED AIR DEFENSE WEAPONS SUCH AS RADAR DIRECTED AUTOMATIC WEAPONS AND HEAT-SEEKING MISSILES. THEREFORE, HELICOPTER TACTICS HAVE TO BE ADJUSTED TO COUNTER. THE NEW THREAT. WE CAN NO LONGER FLY AT HIGH ALTITUDES AND SURVIVE ON THE BATTLEFIELD.

SLIDE 8 ON

COMBAT EXPERIENCE AND THE RESULTS OF AIRCRAFT SURVIVABILITY TESTS, HAVE PROVEN THAT TERRAIN, FLYING

IS THE BEST TACTIC TO COUNTER THIS NEW THREAT AND MINIMIZE THE EFFECTIVENESS OF THE ENEMY WEAPON SYSTEMS DIRECTED AT HELICOPTERS. TERRAIN FLYING IS THE TACTIC OF EMPLOYING AIRCRAFT IN SUCH A MANNER AS TO UTILIZE THE TERRAIN, VEGETATION, AND MAN-MADE OBJECTS, TO ENHANCE SURVIVABILITY BY DEGRADING THE ENEMY'S ABILITY TO VISUALLY, OPTICALLY, OR ELECTRONICALLY DETECT OR LOCATE THE AIRCRAFT. THIS TACTIC INVOLVES A CONSTANT AWARENESS OF THE CAPABILITIES AND POSITION OF THE ENEMY WEAPON SYSTEMS IN RELATION TO AVAILABLE TERRAIN FEATURES WHICH CAN BE USED TO MASK THE HELICOPTER.

SLIDE 9 ON

TERRAIN FLYING, INVOLVES FLIGHT CLOSE TO THE EARTH'S SURFACE, AND INCLUDES THE TACTICAL APPLICATION OF LOW LEVEL, CONTOUR, AND NAP-OF-THE-EARTH FLIGHT TECHNIQUES, AS APPROPRIATE, TO COUNTER THE ENEMY'S CAPABILITY TO ACQUIRE, TRACK, AND ENGAGE THE AIRCRAFT.

### (TRANSLATION)

AT WHICH DETECTION OR OBSERVATION OF THE AIRCRAFT BY
THE ENEMY IS AVOIDED OR MINIMIZED. THIS FLIGHT
TECHNIQUE IS CHARACTERIZED BY FLIGHT IN A STRAIGHT
LINE, AT A CONSTANT AIRSPEED AND ALTITUDE. CONTOUR
FLIGHT IS AT A LOW.ALTITUDE AND CONFORMING, IN CLOSE
PROXIMITY, TO THE CONTOURS OF THE EARTH. THIS TYPE
OF FLIGHT TAKES ADVANTAGE OF AVAILABLE COVER AND

CONCEALMENT TO MASK THE AIRCRAFT FROM OBSERVATION OR DETECTION BY THE ENEMY. IT IS CHARACTERIZED BY A. . VARYING AIRSPEED AND ALTITUDE AS VEGETATION AND OBSTACLES DICTATE, NAP-OF-THE-EARTH FLIGHT IS CONDUCTED AT THE LOWEST POSSIBLE ALTITUDE. IT IS FLIGHT AS CLOSE TO THE EARTH'S SURFACE AS VEGETATION OR OBSTACLES WILL PERMIT AND GENERALLY FOLLOWS THE CONTOURS OF THE EARTH. AS IN CONTOUR FLIGHT, AIRSPEED AND ALTITUDE ARE VARIED AS INFLUENCED BY THE TERRAIN. THE PILOT USES A WEAVING AND DEVIOUS ROUTE, WITHIN A PREPLANNED CORRIDOR, WHILE REMAINING ORIENTED ALONG THE GENERAL AXIS OF MOVEMENT. HE TAKES MAXIMUM ADVANTAGE OF THE COVER AND CONCEALMENT AFFORDED BY TERRAIN,

### VEGETATION, AND MAN-MADE FEATURES.

### (TRANSLATION)

SLIDE 10 ON

THREE PRIMARY FACTORS INFLUENCE WHICH OF THE

TERRAIN FLIGHT TECHNIQUES WILL BE UTILIZED ON THE

BATTLEFIELD. FIRST AND MOST IMPORTANT, THE THREAT AND

AVAILABILITY OF TERRAIN MASKING. WHEN SUITABLE

TERRAIN MASS DOES NOT EXIST, NOE FLIGHT IS USED IN

ORDER TO TAKE ADVANTAGE OF ANY VEGETATION AND

EVEN VERY SMALL JEPRESSIONS IN THE EARTH'S SURFACE.

### (TRANSLATION)

SECONDLY, TIME CONSIDERATIONS INFLUENCE THE , SELECTION OF THE FLIGHT TECHNIQUE, LOW LEVEL OR

CONTOUR FLIGHT IS USUALLY PREFERABLE WHEN THE TERRAIN

IS SUITABLE FOR MASKING. MORE SORTIES CAN BE FLOWN

AND GREATER DISTANCES CAN BE COVERED DUE TO THE HIGH

AIRSPEED CHARACTERISTICS OF THESE TECHNIQUES VERSUS THE

SLOW AIRSPEED OF NAP-OF-THE-EARTH FLIGHT.

### (TRANSLATION)

THE THIRD CONSIDERATION IS SAFETY. THE HIGHER

THE ALTITUDE, THE GREATER THE REACTION TIME IN AN

EMERGENCY, AND THE HIGHER THE PROBABILITY OF OBSTACLE

AND HAZARD AVOIDANCE. FOR THIS REASON, THE HIGHEST

ALTITUDE BELOW THE MASKING TERRAIN SHOULD BE USED.

A THOROUGH ANALYSIS OF EACH OF THESE FACTORS WILL

ENABLE THE AVIATOR TO CHOOSE THE PROPER TERRAIN FLIGHT

TECHNIQUE, OR COMBINATION OF TECHNIQUES, TO ENHANCE HIS

### SURVIVAL ON THE BATTLEFIELD.

### (TRANSLATION)

SLIDE 10 OFF

TERRAIN FLIGHT IS MORE THAN BEING ABLE TO FLY AROUND TREES AND BELOW RIDGELINES. IT INVOLVES READING AND INTERPRETING TACTICAL MAPS, RECOGNITION OF THREAT EQUIPMENT, MISSION PLANNING, NAVIGATION TECHNIQUES, KNOWLEDGE OF HOW THE GROUND BATTLE IS FOUGHT, AND MANY OTHER MILITARY SUBJECTS. TERRAIN FLYING IS DIFFICULT, EVEN FOR EXPERIENCED AVIATORS AND REQUIRES TRAINING AND PRACTICE. TO PROVIDE THE AVIATOR WITH THE REQUIRED SKILLS TO OPERATE A HELICOPTER IN THE TERRAIN FLIGHT ENVIRONMENT, A WELL PLANNED FLIGHT AND ACADEMIC TRAINING PROGRAM IS REQUIRED, THAT WILL INCREASE DEMANDS ON THE AVIATOR AS HIS

### SKILLS INCREASE.

### (TRANSLATION)

SLIDE 11 ON THE TRAINING PROGRAM SHOULD BE DESIGNED WITH TWO TRAINING PHASES: INITIAL QUALIFICATION AND ADVANCED TRAINING. THE INITIAL QUALIFICATION PHASE, SHOULD BE DESIGNED, TO FAMILIARIZE THE AVIATOR WITH AVIATION OPERATIONS IN THE HIGH THREAT ENVIRONMENT, AND TO TEACH HIM THE NAVIGATION AND FLIGHT SKILLS HE NEEDS TO CONDUCT TERRAIN FLIGHT. AFTER COMPLETING THE INITIAL TRAINING PHASE, THE AVIATOR WILL POSSESS THE BASIC INDIVIDUAL KNOWLEDGE AND SKILLS REQUIRED TO OPERATE ON THE BATFLEFIELD, UNDETECTED. HOWEVER, HE MUST LEARN TO USE THESE NEWLY ACQUIRED SKILLS AS A MEMBER OF A UNIT, BEFORE HE ENGAGES A SOPHISTICATED

### (TRANSLATION)

THE ADVANCED TRAINING SHOULD BE DESIGNED, TO TRAIN

THE AVIATOR, TO ACCOMPLISH THE UNIT MISSION, UTILIZING

TERRAIN FLIGHT TECHNIQUES, DURING BOTH DAYLIGHT AND

DARKNESS. IT INCLUDES EMPLOYMENT OF AIRCRAFT, PLANNING

AND COORDINATION BETWEEN GROUND AND AVIATION UNITS, AND

TEAMWORK REQUIRED BETWEEN AIRCRAFT. TERRAIN FLYING

OFFERS AN AVIATION UNIT A TREMENDOUS OPPORTUNITY TO

INCREASE STAYING POWER ON THE BATTLEFIELD.

SLIDE 11 OFF

### (TRANSLATION)

HOWEVER, ADDITIONAL FACTORS ARE IMPOSED ON THE

AVIATOR AND UNIT, THAT MAY NOT BE ENCOUNTERED ON

MISSIONS FLOWN AT HIGHER ALTITUDES.

LIDE 12 ON

WILL OFTEN BE LIMITED OR RESTRICTED. THE LINE OF . . SIGHT RADIOS CURRENTLY AVAILABLE, MAY BE RESTRICTED, AND IN CERTAIN CASES, IT WILL BE IMPOSSIBLE TO MAINTAIN CONTACT WITH A UNIT, OUTSIDE THE IMMEDIATE VICINITY OF THE AIRCRAFT. THE LACK OF COMMUNICATIONS, WHEN TERRAIN FLYING, CAUSES A SIGNIFICANT CHANGE IN THE PROCEDURES USED FOR CONTROL OF A TACTICAL OPERATION. THE GROUND COMMANDER WILL NO LONGER BE ABLE, TO USE HIS COMMAND AND CONTROL AIRCRAFT, TO SUPERVISE THE ACTIVITIES OF SEVERAL UNITS SIMULTANEOUSLY FROM HIGH ALTITUDE. THE CONTROL PROCEDURES WILL NORMALLY BE DECENTRALIZED DURING PERIODS OF POOR COMMUNICATIONS.

WHEN CONDUCTING TERRAIN FLYING, COMMUNICATIONS

IN ADDITION TO DISRUPTING COMMUNICATIONS, TERRAIN FLIGHT, ESPECIALLY NAP-OF-THE-EARTH FLIGHT, WILL NORMALLY PLACE INCREASED MAINTENANCE REQUIREMENTS ON A UNIT. ROTOR BLADE STRIKES AND SMALL PUNCTURES IN THE AIRCRAFT CAN BE EXPECTED TO INCREASE, REQUIRING MORE TIMELY AND COMPLETE MAINTENANCE INSPECTIONS. HOWEVER, THIS IS A PROBLEM USUALLY FOUND ONLY IN INITIAL TRAINING. WELL TRAINED AVIATORS RECOGNIZE THE HAZARDS ASSOCIATED WITH TERRAIN FLIGHT AND APPLY PROFESSIONAL JUDGEMENT AT ALL ADDITIONALLY, THE HIGHER POWER REQUIREMENTS FOR NAP-OF-THE-EARTH FLIGHT IMPOSE A HEAVY STRAIN ON AIRCRAFT DYNAMIC COMPONENTS, WHICH CAN REDUCE AVERAGE TIME BETWEEN FAILURE. ALTHOUGH THESE TERRAIN FLYING CONSIDERATIONS WILL IMPACT ON A UNIT'S PERFORMANCE, THE RECOGNITION CF THESE FACTORS WILL ENABLE MORE DETAILED PLANNING

TO SOLVE OR MINIMIZE THE PROBLEMS.

## (TRANSLATION)

SLIDE 13 ON IN SUMMARY - AVIATION UNITS MUST PROVIDE CONTINUOUS AND IMMEDIATE SUPPORT AS A MEMBER OF THE COMBINED ARMS TEAM. THE TACTICS WHICH WERE EFFECTIVE DURING THE EARLY INTRODUCTION OF THE HELICOPTER TO THE BATTLEFIELD, CAN NO LONGER BE EMPLOYED, WHEN CONDUCTING AIR OPERATIONS, IN A HIGH THREAT ENVIRONMENT. IN ORDER TO SURVIVE IN THIS ENVIRONMENT, AND REMAIN AN EFFECTIVE COMBAT FORCE, HELICOPTERS OPERATING NEAR THE FOWARD EDGE OF THE BATTLE AREA, MUST AVOID DETECTION BY THE ENEMY'S SOPHISTICATED WEAPONRY. THIS REQUIRED AVIATORS, TO ACQUIRE THE CAPABILITY, TO CONDUCT FLIGHT AT TERRAIN FLIGHT ALTITUDES. THROUGH PROPER TRAINING AND SUPERVISION, AVIATORS CAN ACQUIRE TERRAIN FLIGHT SKILLS, AND USE THEM ON THE BATTLEFIELD, TO INCREASE

STAYING POWER, AND TO SURVIVE TO FIGHT ANOTHER DAY. BEFORE WE CONTINUE TO THE NEXT SUBJECT, ARE THERE ANY QUESTIONS?

### (TRANSLATION)

SLIDE 13 OFF THE NEXT TOPIC OF DISCUSSION IS NIGHT FLYING.

### (TRANSLATION)

SLIDE 14 ON

THE CAPABILITY OF AVIATORS TO ACCOMPLISH THE MISSION AT NIGHT HAS BEEN RECOGNIZED BY COMMANDERS IN PAST CONFLICTS, HOWEVER, ONLY LIMITED USE HAS BEEN MADE OF ARMY AIRCRAFT TO CONDUCT NIGHT OPERATIONS. DUE TO THE REQUIREMENT, TO CONDUCT AROUND THE CLOCK OPERATIONS, WARS OF THE FUTURE WILL-REQUIRE EXTENSIVE EMPLOYMENT OF NIGHT AIRMOBILE FORCES. TO ASSIST THE COMMANDER IN THE ACCOMPLISHMENT OF HIS 24 HOUR MISSION, AVIATION UNITS MUST BE PREPARED, TO CONDUCT NIGHT TACTICAL OPERATIONS.

THIS WILL REQUIRE THAT INDIVIDUAL AVIATORS ACQUIRE THE CAPABILITY TO CONDUCT FLIGHT AT NAP-OF-THE-EARTH ALTITUDES AT NIGHT. NOT ONLY DOES NIGHT NAP-OF-THE-EARTH DEGRADE THE ENEMY'S CAPABILITY TO DETECT FRIENDLY AIRCRAFT BY ELECTRONIC DEVICES, IT ALSO RESTRICTS VISUAL DETECTION. IN ADDITION, A SUCCESSFUL TACTICAL NIGHT OPERATION, INCREASES THE SHOCK EFFECT, AND GIVES THE ADVANTAGE OF INCREASING FEAR AND CONFUSION IN THE ENEMY RANKS.

## (TRANSLATION)

SLIDE 14 OFF THE REASONS CITED PREVIOUSLY, FOR TERRAIN FLIGHT DURING DAYLIGHT OPERATIONS, ARE ALSO APPLICABLE FOR NIGHT OPERATIONS. HELICOPTERS MUST USE TERRAIN FLIGHT TECHNIQUES, DURING NIGHT OPERATIONS, TO AVOID DESTRUCTION BY ENEMY WEAPON SYSTEMS. UNTIL RECENTLY, MINIMAL

DOCTRINE HAD BEEN DEVELOPED FOR THE EMPLOYMENT OF
HELICOPTERS IN THE NIGHT TERRAIN FLIGHT MODES. HOWEVER,
NUMEROUS STUDIES AND EXPERIMENTS HAVE PROVIDED THE
NECESSARY TECHNIQUES REQUIRED, TO CONDUCT NIGHT OPERATIONS
IN THIS ENVIRONMENT.

#### (TRANSLATION)

SLIDE 15 ON

THE TWO MODES OF NIGHT TACTICAL FLIGHT, ARE NIGHT
HAWK, WHICH UTILIZES THE UNAIDED EYE, AND NIGHT VISION
GOGGLES, WHICH RELIES ON A MECHANICAL DEVICE, TO
IMPROVE NIGHT VISION. NIGHT HAWK, OR UNAIDED TACTICAL
NIGHT FLIGHT, RELIES ON NATURAL LIGHT FOR THE CONDUCT OF
TERRAIN FLYING. THE PREVAILING LIGHT CONDITIONS, AT
NIGHT, WILL ALLOW THIS MODE OF FLIGHT DURING MOST
OPERATIONS. TO ENHANCE THE AVIATORS VISION OUTSIDE

THE AIRCRAFT, THE REDUCTION OF INTERNAL REFLECTION IS IMPORTANT, AND USUALLY REQUIRES AIRCRAFT MODIFICATIONS. ALL INTERIOR SURFACES OF THE COCKPIT, ARE PAINTED IN NONREFLECTIVE PAINT, INTERIOR LIGHT INTENSITIES ARE SET AT LOWER LEVELS, AND THE FLASH INTENSITY OF WARNING LIGHTS ARE ADJUSTED. THESE MODIFICATIONS MINIMIZE THE POSSIBILITY OF AVIATOR VISUAL DISORIENTATION AND AID IN THE EFFECTIVE OPERATION, OF THE HELICOPTER, AT TERRAIN FLIGHT ALTITUDES AT NIGHT AND ARE USED WITH BOTH MODES OF TACTICAL NIGHT FLIGHT.

# (TRANSLATION)

SLIDE 16 ON

THE SECOND MODE OF NIGHT TACTICAL FLIGHT, NIGHT VISION GOGGLES, ENABLES OPERATIONS UNDER MUCH LOWER AVAILABLE LIGHT CONDITIONS. NIGHT VISION GOGGLES

PROVIDE GENERAL PURPOSE, PASSIVE VISION AT NIGHT. THE GOGGLES ARE SELF CONTAINED, AND USE LIGHT AMPLIFICATION TO PROVIDE NIGHT VISION CAPABILITIES. THE ASSEMBLY HOUSING IS CONSTRUCTED OF A PLASTIC MATERIAL, AND LINED WITH A CUSHION, WHICH RESTS ON THE CHEEKBONES. THE ENTIRE UNIT, IS APPROXIMATELY 6½ INCHES SQUARE, WEIGHS 2 POUNDS 3 OUNCES AND PROVIDES A 40° DEGREE FIELD OF VISION. NECK STRAIN AND FATIGUE, FROM THE GOGGLE WEIGHT ON THE FRONT OF THE HELMET, AND LOSS OF PERIPHERAL VISION, LIMIT CONTINUOUS USE. MAP READING IS ALSO DIFFICULT, BECAUSE OF THE LOSS OF DETAIL AND COLOR. THIS MEANS PRE-MISSION PLANNING BECOMES INCREASINGLY IM. ORTANT TO OVERCOME THESE LIMITATIONS.

(TRANSLATION)

THE NIGHT VISION GOGGLES CAN BE WORN BY AVÍATORS WHILE ENGAGED IN ANY TYPE OF COMBAT MISSION AT NIGHT. THE DEVICE ENABLES THE AVIATOR, TO MANEUVER THE AIRCRAFT, AT LOW ALTITUDES DURING THE HOURS OF DARKNESS, PROVIDES THE CAPABILITY TO GATHER COMBAT INTELLIGENCE, AND TO ACQUIRE TARGETS AT GREATER RANGES. TACTICS FOR NIGHT LOW-LEVEL, CONTOUR, AND NAP-OF-THE-EARTH OPERATIONS, USING THE NIGHT VISION GOGGLES, DO NOT MATERIALLY DIFFER FROM THOSE USED DURING DAYLIGHT OPERATIONS. CEKE TERRALIC AND ENDER STATE ARE FACE CAL ELECTIVES TANK AIRCREWS USING NIGHT VISION GOGGLES ARE CAPABLE OF PERFORMING ALL TASKS NORMALLY PERFORMED DURING DAYLIGHT OPERATIONS. EXPERIENCE HAS SHOWN, THAT AVIATORS WEARING THE GOGGLES, DURING LOW AVAILABLE LIGHT LEVELS,

THAN POSSIBLE WITH THE UNAIDED EYE. NIGHT VISION

GOGGLE FLYING, AS WELL AS NIGHT HAWK FLYING, PLACES

GREATER DEMANDS ON AN AVIATOR THAN THOSE ASSOCIATED

WITH DAYLIGHT OPERATIONS. THROUGH PROPER TRAINING,

THE AVIATOR CAN GAIN THE REQUIRED SKILLS, AND DEVELOP

CONFIDENCE IN HIS ABILITY, TO CONDUCT NIGHT TERRAIN

FLIGHT OPERATIONS.

#### (TRANSLATION)

SLIDE 17 ON

NOW LET'S TAKE A LOOK AT THE NEXT MODEL OF NIGHT VISION GOGGLE, DISCUSS SOME DEVELOPMENTS TO IMPROVE RELIABILITY AND SOME MODIFICATIONS REQUIRED ON THE AIRCRAFT.

# (TRANSLATION)

IN THE FUTURE, NEW GOGGLES WILL BE

WILL BE IMPROVED AND THE FIELD OF VISION INCREASED.

MAP READING ABILITY WILL BE INCREASED BY THE FLIP

UP FEATURE, THAT WILL ALLOW THE AVIATOR TO LOOK AT

A MAP USING NORMAL VISION.

SLIDE 17 OFF

#### (TRANSLATION)

AT THIS TIME WE MUST DEPEND ON BATTERY POWER AND AN REMOVE BATTERY FROM GOGGLE & SHOW TO CLASS

IMMEDIATE MEANS OF RESTORING COCKPIT LIGHTING IN THE

EVENT OF BATTERY FAILURE. AS YOU WOULD SUSPECT, BATTERY

POWER IS NOT AS RELIABLE AS AIRCRAFT SYSTEMS POWER.

NEW DESIGNS WILL USE THE AIRCRAFT AS THE SOURCE OF

POWER TO OPERATE NIGHT VISION DEVICES.

## (TRANSLATION)

THE AIRCRAFT MUST BE MODIFIED FOR USE WITH GOGGLES.

THE MODIFICATIONS TO LIGHTS AND PAINTING AS WELL AS AN EMERGENCY SWITCH TO RESTORE COCKPIT LIGHTING HAS BEEN DEVELOPED FOR THE UH-1 AND AH-1. THE AVIATION CENTER AT FORT RUCKER HAS DETERMINED THAT ADDITIONAL WORK IS REQUIRED BEFORE THE CH-47 CAN BE COMPATIBLE WITH NIGHT VISION GOGGLES. THE 500 M-D HAS, AS FAR AS WE KNOW, NEVER BEEN TESTED FOR COMPATIBILITY WITH NIGHT VISION GOGGLES. WE THINK ANY MODIFICATION WOULD BE SIMPLE AND RELATIVELY INEXPENSIVE.

## (TRANSLATION)

SLIDE 18 ON BEFORE TRAINING BEGINS, THE AVIATOR MUST BE EVALUATED, TO DETERMINE IF HE IS PHYSICALLY CAPABLE OF NIGHT TACTICAL FLIGHT. THE HELICOPTER DOES NOT KNOW IF IT IS DAYLIGHT OR DARK. THE LIMITATION TO NIGHT OPERATION IS THE AVIATOR.

# (TRANSLATION)

RECENTLY, WE HAVE MEDICALLY DETERMINED THAT AVIATORS WITH PERFECT DAYTIME VISION, MAY BE UNABLE TO OPERATE IN A TERRAIN FLIGHT ENVIRONMENT AT NIGHT. SOME INDIVIDUALS. A SMALL PERCENTAGE, WHO HAVE PERFECT DAY VISION, MAY HAVE SOME DEGREE OR ABSOLUTE NIGHT BLINDNESS. IF NO ROUTINE TEST FOR NIGHT VISION IS GIVEN, AN INDIVIDUAL MAY NOT REALIZE HE HAS SOME DEGREE OF NIGHT BLINDNESS. A CONSTANT AND KEEN OBSERVATION OF STUDENTS IN YOUR NIGHT FLIGHT PROGRAM IS NECESSARY TO PREVENT QUALIFICATION OF AN INDIVIDUAL WHO HAS NIGHT VISION PROBLEMS.

(TRANSLATON)

FOR USE OF NIGHT VISION GOGGLES, AVIATORS SHOULD BE EVALUATED FOR ASTIGMATISM. ASTIGMATISM IS SIMPLY AN IRREGULARITY OF THE EYE, WHICH PRODUCES AN OUT-OF-FOCUS CONDITION. THE NIGHT VISION GOGGLE, CAN COMPENSATE FOR A REGULAR OUT-OF-FOCUS CONDITION, SIMPLE FARSIGHTEDNESS OR NEARSIGHTEDNESS, BUT NOT FOR ASTIGMATISM.

#### (TRANSLATION)

SLIDE 19 ON A TRAINING PROGRAM FOR NIGHT TERRAIN FLIGHT SHOULD BE DESIGNED, TO PROGRESS FROM A HIGHLY CONTROLLED, RELATIVELY SIMPLE, SINGLE AIRCRAFT EXERCISE, TOWARD AN ADVANCED LEVEL OF MULTIPLE AIRCRAFT, IN A COMPLETELY TACTICAL ENVIRONMENT. INITIAL TRAINING BEGINS IN THE CLASSROOM, WHERE THE AVIATOR CAN GAIN AN APPRECIATION FOR THE PROBLEMS ASSOCIATED WITH NIGHT FLYING. DURING THIS TRAINING PHASE, PRECAUTIONS SHOULD BE UNDERTAKEN,

TO ASSURE THE PSYCHOLOGICAL READINESS OF THE AVIATOR, TO COPE WITH THE DEMANDS OF NIGHT FLIGHT. TO ACHIEVE A POSITIVE MENTAL STATE, THE TRAINING PROGRAM MUST INSTILL AVIATOR CONFIDENCE IN HIS OWN SKILL TO CONDUCT NIGHT TERRAIN FLIGHT, MOTIVATE HIS INTEREST SO AS TO INCREASE HIS FLYING SKILL, AND ELIMINATE UNNECESSARY ITEMS WHICH MAY DETRACT FROM THE LEARNING PROCESS. IF THESE CONDITIONS ARE FULLY UNDERSTOOD, THE ANXIETY AND FEAR ASSOCIATED WITH NIGHT FLIGHT ARE RELIEVED AND THE AVIATOR'S LEARNING RATE WILL STEADILY INCREASE.

## (TRANSLATION)

THE FLIGHT TRAINING PORTION OF THE PROGRAM, SHOULD BE
DESIGNED, TO PROGRESSIVELY TRAIN THE AVIATOR, TO BE
PROFICIENT, IN PERFORMING TERRAIN FLIGHT USING UNAIDED
NIGHT HAWK TECHNIQUES, AND THEN AIDED NIGHT VISION

PROFICIENCY, THE TRAINING PROGRAM SHOULD BE IMPROVED,

AND MODIFIED, TO REFLECT THE TRAINING EXPERIENCE. THE

SKILLS LEARNED DURING THE INITIAL QUALIFICATION TRAINING,

MUST NOT BE ALLOWED TO DETERIORATE THROUGH INACTIVITY,

AS PROFICIENCY IN THESE TECHNIQUES, DETERIORATES RAPIDLY.

CONTINUOUS NIGHT FLIGHT TRAINING MUST BECOME AN INTEGRAL

PART OF A UNIT'S OVERALL TRAINING PROGRAM.

## (TRANSLATION)

SLIDE 20 ON

IN SUMMARY - AVIATION UNITS MUST HAVE THE CAPABILITY

TO CONDUCT AROUND-THE-CLOCK, TACTICAL FLIGHT OPERATIONS, TO

PROVIDE THE RESPONSIVENESS REQUIRED ON THE BATTLEFIELD.

UNITS PROPERLY TRAINED, IN NIGHT HAWK/NIGHT VISION GOGGLE

SKILLS, WILL POSSESS THIS CAPABILITY. THE FORCE THAT

OPERATES AT NIGHT, EXACTLY AS IT DOES IN THE DAYTIME,
WILL EASILY DEFEAT A FORCE THAT CANNOT. THE GOAL OF
AVIATION UNITS, SHOULD BE, TO HAVE THE CAPABILITY TO
PROVIDE CONTINUOUS SUPPORT, TO THE GROUND COMMANDER, DAY
AND NIGHT, AND TO ACQUIRE AND MAINTAIN, A NIGHT OPERATIONAL
CAPABILITY THAT IS SUPERIOR TO THE POTENTIAL ENEMY.

SLIDE 20 OFF

(TRANSLATION)

THE NEXT TOPIC OF DISCUSSION IS TACTICAL INSTRUMENTS.

(TRANSLATION)

SLIDE 21 ON

WE HAVE ALREADY DISCUSSED AND ESTABLISHED THE NEED

FOR CONTINUOUS AVIATION OPERATIONS AROUND-THE-CLOCK.

ADVERSE WEATHER WITH REDUCED VISIBILITY CAN SEVERELY

HANDICAP A UNIT'S CAPABILITY, TO CONDUCT SUSTAINED OPERATIO

ON A BATTLEFIELD. THE ENEMY FACING THE REPUBLIC OF KOREA,

IS KNOWN TO FAVOR BAD WEATHER CONDITIONS AS A TIME

FOR ATTACK. IT IS SAFE TO ASSUME, THAT ONCE A BATTLE

BEGINS, IT WILL CONTINUE REGARDLESS OF THE WEATHER.

AVIATION UNITS MUST BE TRAINED, TO FIGHT AND MOVE ABOUT

THE BATTLEFIELD UNDER ADVERSE WEATHER CONDITIONS. UNITS

NOT PROPERLY TRAINED, TO OPERATE IN ADVERSE WEATHER

CONDITIONS, WILL MAKE VERY LITTLE CONTRIBUTION TO THE

COMBINED ARMS EFFORT WHEN THOSE WEATHER CONDITIONS

DO EXIST.

## (TRANSLATION)

SLIDE 22 ON

TACTICAL INSTRUMENT FLIGHT CAN PROVIDE A UNIT, THE NEEDED TOOL, TO CONTINUE OPERATIONS DURING BAD WEATHER.

TACTICAL INSTRUMENT FLIGHT, IS DEFINED, AS FLIGHT UNDER

INSTRUMENT METEROLOGICAL CONDITIONS, IN AN AREA DIRECTLY

AFFECTED BY THE THREAT. BY INSTRUMENT METEROLOGICAL CONDITIONS, I MEAN FLIGHT WHEN VISUAL REFERENCE TO THE GROUND IS NOT POSSIBLE, AND FLIGHT USING AIRCRAFT INSTRUMENTS IS REQUIRED. IT IS USED AS A MEANS TO COMPLETE AN ASSIGNED MISSION, THAT IS CRITICAL IN NATURE, WHEN METEROLOGICAL CONDITIONS PRECLUDE NAP-OF-THE-EARTH FLIGHT. TACTICAL SITUATIONS CAN BE EXPECTED THAT REQUIRE AIRCRAFT OPERATIONS BE CONDUCTED WITHIN THE THREAT ENVIRONMENT DURING INSTRUMENT METEROLOGICAL CONDITIONS. IN ORDER TO SURVIVE DURING SUCH MISSIONS, AVIATION UNITS MUST OPERATE, UNDER INSTRUMENT CONDITIONS, AT ALTITUDES WE WELT BELOW THE ALTITUDES SPECIFIED, IN CIVIL INSTRUMENT FLIGHT RULES. WHILE STANDARD CIVIL RULES MAY BE COMPATIBLE

WITH THREAT CONDITIONS IN REAR AREAS, THEY WILL BE
INADEQUATE FOR FORWARD AREAS. TACTICAL INSTRUMENT FLIGHT
PROVIDES THE MEANS, TO INSURE MAXIMUM SUPPORT OF GROUND
TACTICAL UNITS, BY ALLOWING AIRCRAFT TO MOVE ABOUT THE
BATTLEFIELD, EVEN IN ADVERSE WEATHER, UNDER HIGH THREAT
CONDITIONS.

#### (TRANSLATION)

SURVIVABILITY UNDER THESE CONDITIONS REQUIRES TECHNIQUES,
WHICH GO BEYOND, THE USE OF TODAY'S CONVENTIONAL AIRWAYS
AND NAVIGATIONAL AIDS. SOPHISTICATED APPROACH PROCEDURES,
AND EQUIPMENT, WILL NOT BE AVAILABLE ON THE BATTLEFIELD.
INSTEAD, TACTICAL INSTRUMENT FLIGHT WILL BE PERFORMED,
UNDER MARGINAL WEATHER CONDITIONS, REQUIRING THE HIGHEST
LEVEL OF AVIATOR PROFICIENCY. AIRCRAFT OPERATE

ROUTINELY AT REDUCED ALTITUDES, WITH MINIMUM AIR TRAFFIC

CONTROL FACILITIES AND REGULATIONS. INCREASED DEPENDENCE

ON PRE-FLIGHT PLANNING, AND AVIATOR PROFICIENCY IS

ESSENTIAL TO ACCOMPLISH THE MISSION USING TACTICAL

INSTRUMENT FLIGHT.

#### (TRANSLATION)

SLIDE 23 ON

AVIATOR PROFICIENCY CAN BE GAINED THROUGH A WELL
ORGANIZED, AND THOROUGH TACTICAL INSTRUMENT TRAINING
PROGRAM. THROUGH TESTING, TRAINING, AND PRACTICE, THE
CAPABILITY CAN BECOME A REALITY. THE TRAINING NOT
ONLY SHOULD FAMILIARIZE AVIATORS WITH THE PRINCIPLES
AND EMPLOYMENT OF TACTICAL INSTRUMENT FLIGHT IN A
HIGH THREAT ENVIRONMENT, IT MUST TEACH THEM TO EXECUTE
AN INSTRUMENT FLIGHT, AND APPROACH INTO A LANDING ZONE,

USING MINIMUM ELECTRONIC COMMUNICATION AND NAVIGATION

DEVICES. TRAINING MUST BE ORIENTED TOWARD ACCOMPLISHMENT

OF THE UNIT'S MISSION, ON THE BATTLEFIELD, WITH MINIMUM

ASSISTANCE FROM ELECTRONIC COMMUNICATION AND NAVIGATION

DEVICES. THE TRAINING MUST INSTILL CONFIDENCE IN THE

AVIATOR, THAT TACTICAL INSTRUMENT FLIGHT CAN BE PERFORMED,

SAFELY, IN A HIGH THREAT ENVIRONMENT, AND AT LOW ALTITUDES.

AIR TRAFFIC MANAGEMENT, AND PATHFINDER PERSONNEL, MUST

ALSO BE INTEGRATED INTO THE TRAINING.

#### (TRANSLATION)

UNITS MUST INCORPORATE TACTICAL INSTRUMENT FUNCTIONS
INTO THEIR EVERYDAY MISSIONS. FLYING AT LOWER ALTITUDES,
MINIMAL USE OF NAVIGATION AND COMMUNICATION EQUIPMENT,.

DETAILED PRE-MISSION PLANNING, AND POST-MISSION DEBRIEFING,

ARE TRAINING PRACTICES THAT CAN BE USED ON A ROUTINE

BASIS DURING NORMAL OPERATIONS. TRAINING MUST EMPHASIZE

FLEXIBILITY IN ORDER FOR AVIATION ELEMENTS, TO BE ABLE,

TO RESPOND QUICKLY, AND RELIABLY IN A WIDE RANGE OF

ADVERSE WEATHER CONDITIONS. TO MAINTAIN THE PROFICIENCY

THAT IS REQUIRED, TO CONDUCT TACTICAL INSTRUMENT FLIGHT,

THE TRAINING MUST BE CONTINUOUS.

## (TRANSLATION)

COMMAND EMPHASIS IS ESSENTIAL TO INSURE THAT THE

AVIATORS ASSIGNED TO THE UNIT ACHIEVE AND MAINTAIN THE

REQUIRED PROFICIENCY TO CONDUCT TACTICAL INSTRUMENT

FLIGHT IN AN ACTUAL COMBAT ENVIRONMENT. WHERE

POSSIBLE, THE SYNTHETIC FLIGHT TRAINING SIMULATORS,

IN CONJUNCTION WITH ACTUAL IN-FLIGHT TRAINING, SHOULD BE

USED TO OBTAI. AND MAINTAIN THE REQUIRED DEGREE OF PROFICIENCY.

## (TRANSLATION)

SLIDE 24 ON

MANY COMMANDERS MAY QUESTION THE NEED FOR THIS TYPE OF FLYING. WHEN AMALYZING THE APPROPRIATENESS OF TACTICAL INSTRUMENT FLIGHT IN KOREA, THE ANNUAL WEATHER PATTERNS MUST BE CONSIDERED. US AIR FORCE WEATHER REPORTS FOR KOREA SHOW THAT VISIBILITY WILL BE BELOW PEACETIME VISUAL FLIGHT REQUIREMENTS AN AVERAGE OF TEN PER CENT OF THE YEAR. DURING VARIOUS TIMES OF THE YEAR, THIS PERCENTAGE MAY RISE AS HIGH AS TWENTY-SIX PER CENT. BY COMPARISON, THE WEATHER IS BELOW 200 FEET CLOUD CEILING AND 1/2 MILE VISIBILITY ONLY TWO PER CENT OF THE YEAR. THIS MEANS THAT AVIATION UNITS, NOT

TRAINED IN TACTICAL INSTRUMENT FLIGHT, WILL BE SEVERELY HANDICAPPED IN THEIR ABILITY TO CONDUCT SUSTAINED AVIATION OPERATIONS UP TO TWENTY-SIX PER CENT OF THE YEAR. A SUCCESSFUL COMMANDER CANNOT AFFORD TO HAVE HIS AVIATION ASSETS', COMBAT CAPABILITY, DEGRADED FOR THAT PERIOD OF TIME.

#### (TRANSLATION)

SLIDE 25 ON

WE DO NOT SUGGEST THAT TACTICAL INSTRUMENT FLIGHT
WILL BE A ROUTINE MISSION. HOWEVER, ITS USE COULD MEAN
THE DIFFERENCE BETWEEN SUCCESS, OR FAILURE ON THE BATTLEFIELD, DURING PERIODS OF ADVERSE WEATHER. TACTICAL
INSTRUMENT FLIGHT IS SIMPLY ANOTHER MEANS, BY WHICH THE
COMMANDER, CAN ENHANCE THE COMBAT POWER AND CAPABILITIES
OF HIS AVIATION ASSETS.

#### (TRANSLATION)

THE NEXT TOPIC OF DISCUSSION IS MOUNTAIN FLYING.

### (TRANSLATION)

SLIDE 26 ON

SLIDE 27 ON

MOBILITY IS A CRITICAL FACTOR IN WINNING WARS, AND ONE OF THE BEST WAYS TO PROVIDE MOBILITY IN THE MOUNTAINS, IS WITH THE HELICOPTER. ALTHOUGH IT MAY NOT BE READILY APPARENT, MOUNTAIN FLYING REQUIRES SPECIAL SKILLS, AND A THOROUGH UNDERSTANDING OF WEATHER AND WINDS.

## (TRANSLATION)

WHEN FLYING IN MOUNTAINS; CLOUDS THAT FORM WELL

BECOMES MORE RUGGED. (PAUSE) DIFFERENCES IN TAKE OFF AND

USE POINTER ABOVE FLIGHT ALTITUDES IN OPEN COUNTRY MAY QUICKLY

COVER A MOUNTAIN PASS AND BLOCK PASSAGE. (PAUSE). AIR

BECOMES MORE TURBULENT, WITH UP AND DOWN DRAFTS, AS TERRAIN

LANDING ALTITUDES REQUIRE CAREFUL PREMISSION PLANNING

AND AN EXCELLENT KNOWLEDGE OF AIRCRAFT CAPABILITIES.

LOAD CARRYING ABILITY IS REDUCED AS ALTITUDE INCREASES.

(PAUSE)

#### (TRANSLATION)

TRAINING FOR MOUNTAIN FLYING OPERATIONS REQUIRES

A WELL ORGANIZED PROGRAM. THE COURSE OF INSTRUCTION

MUST INSTILL CONFIDENCE IN THE STUDENT. BECAUSE OF

INCREASED HAZARDS, PRE-FLIGHT PLANNING MUST BE EMPHASIZED.

SAFETY MUST BE A PRINCIPLE CONSIDERATION, PARTICULARLY

WHEN PHYSICAL CONDITIONS MAY BECOME TOO HAZARDOUS

TO CONTINUE TRAINING. TRAINING SHOULD BE

PROGRESSIVE IN DIFFICULTY COMMENSURATE WITH THE

STUDENT'S PROFICIENCY.

(SHORT PAUSE)

AS STATED, WHEN ALTITUDES INCREASE, HELICOPTER

LOADS MUST BE DECREASED. OFTEN WHEN AN APPROACH IS

PLANNED, AND INITIATED, THERE IS NO SECOND OPPORTUNITY.

AND THE AIRCRAFT MUST LAND. NO OTHER ALTERNATIVE

IS AVAILABLE.

#### (TRANSLATION)

SLIDE 27 OFF

1

VERY OFTEN, THE AVIATOR AND THE AIRCRAFT ARE TESTED

TO THEIR PHYSICAL AND MENTAL LIMITS IN HIGH STRESS

SITUATIONS. ONLY VERY THOROUGH TRAINING AND PREPARATION

CAN OVERCOME THESE STRESSES AND THEY MUST BE UNDERSTOOD

BY AVIATORS AND AVIATION COMMANDERS. THE NEED AND

SENSE OF URGENCY FOR MISSION ACCOMPLISHMENT, MUST NOT

OVERCOME THE REALITIES OF PHYSICAL AND MENTAL LIMITATIONS.

(TRANSLATION)

A STRONG CONSIDERATION, MAY BE TEACHING BASIC

MOUNTAIN FLYING TECHNIQUES, EARLY IN THE STUDENT AVIATOR'S

TRAINING. HE WILL THEN KNOW HOW TO COPE WITH THE PROBLEMS

OF MOUNTAIN FLYING, AS HE APPLIES TACTICAL FLIGHT

MANEUVERS TO MOUNTAINOUS AREAS. AGAIN, CONTINUOUS

TRAINING MUST BE EMPHASIZED. ONLY BY PRACTICE CAN

THE AVIATOR GAIN AND MAINTAIN THE PROFICIENCY DEMANDED

IN MOUNTAIN FLYING OPERATIONS.

# (TRANSLATION)

IN SUMMARY, OUR DISCUSSION OF TERRAIN FLIGHT, NIGHT

TACTICAL FLIGHT, TACTICAL INSTRUMENT FLIGHT AND MOUNTAIN

FLYING OPERATIONS HAVE ESTABLISHED THE NEED TO TRAIN

AND THE IMPORTANCE OF THOROUGH AND PROPER TRAINING.

AVIATOR NOT THE HELICOPTER. THE AIRCRAFT IS A TACTICAL VEHICLE, SUBJECT TO MECHANICAL FAILURE IF INCORRECTLY FLOWN AND MAINTAINED. THE AVIATOR, IS MUCH MORE FRAGILE. HE'S SUBJECT TO PHYSICAL AND MENTAL STRESS AND FATIGUE. HE CAN ASSIMILATE ONLY A GIVEN AMOUNT OF KNOWLEDGE AT A TIME. THESE TACTICAL SUBJECTS PLACE MUCH GREATER STRESSES ON THE AVIATOR THAN DO BASIC FLIGHT MANEUVERS DONE AT ESTABLISHED AIRFIELDS.

## (TRANSLATION)

THE HELICOPTER AND ITS HUMAN PILOT CAN, WITH PROPER
PREPARATION AND TRAINING, OPERATE UNDER MOST WEATHER

CONDITIONS AROUND THE CLOCK. THE PILOT AND HIS

HELICOPTER REQUIRE REST AND MAINTENANCE TO OPERATE

AT PEAK EFFICIENCY FOR SUSTAINED PERIODS OF TIME.

#### (TRANSLATION)

PHYSICAL CONDITIONING OF AVIATORS MUST BE

EMPHASIZED. THE FATIGUE AND STRESS PLACED ON

AVIATORS FLYING AT TERRAIN FLIGHT ALTITUDE AT NIGHT

ON INSTRUMENTS OR IN THE MOUNTAINS IS A MAJOR

CONSIDERATION. THE IMPORTANCE OF THE FUNCTION

OF THE FLIGHT SURGEON AND THE MAINTENANCE OF

GOOD HEALTH ARE VITAL.

## (TRANSLATION)

OUR DISCUSSION OF TACTICAL SUBJECTS. I'LL BE GLAD TO ANSWER ANY QUESTIONS ON THE SUBJECTS WE HAVE COVERED THUS FAR.

(TRANSLATION)

SLIDE 1 ON

GENTLEMEN, LET US RESUME OUR PRESENTATION WITH

A DISCUSSION OF AERIAL GUNNERY TRAINING. THE ANTI-ARMOR

OR ATTACK HELICOPTER HAS BECOME A KEY ELEMENT IN ADDING

MOBILE, RESPONSIVE FIREPOWER TO THE BATTLEFIELD.

#### (TRANSLATION)

SLIDE 2 ON

ANY SYSTEM, NO MATTER HOW SOPHISTICATED WILL

BECOME VIRTUALLY USELESS IF IT IS NOT EMPLOYED PROPERLY.

DURING THE VIETNAM CONFLICT GUNSHIPS EMPLOYED HIGH

ANGLE DIVING ATTACKS UNTIL SOPHISTICATED AIR DEFENSE

WEAPONS WERE INTRODUCED IN THE LATER STAGES :

THE ENEMY WE EXPECT TO FACE WILL HAVE A VARIETY

AND INCREASED NUMBERS OF AIR DEFENSE WEAPONS.

EFFECTIVE TARGET ENGAGEMENTS MUST BE ACCOMPLISHED
FROM TERRAIN FLIGHT ALTITUDES.

### (TRANSLATION)

SLIDE 3 ON

TO ESTABLISH TERRAIN FLIGHT GUNNERY TRAINING
PROGRAMS, NEW TRAINING PROCEDURES AND ENGAGEMENT
TECHNIQUES WERE NECESSARY. MORE EMPHASIS HAD TO BE
PLACED ON THE AIRCRAFT PREPARATION. STANDARDIZED
CONFIGURATION, ZEROING THE SIGHTS AND ACCURATE
BORESIGHTING OF WEAPONS SYSTEMS ALL BECAME VERY
IMPORTANT.

SLIDE 4 ON

## (TRANSLATION)

FOR EXAMPLE, AT A NORMAL HOVER, ROCKETS WILL TRAVEL

A PREDETERMINED DISTANCE BECAUSE THE ROCKET LAUNCHER

IS RIGIDLY ATTACHED TO THE AIRCRAFT.

THE PRESET RANGE CAN BE CHANGED BY CHANGING THE

MOUNTING ANGLE OF THE ROCKET LAUNCHER ON THE

HELICOPTER.

TURN FLIP

SELDOM DO WE FIND A TARGET WAITING AT EXACTLY

USE POINTER

THE PRESET RANGE. TO FIRE AT A MORE DISTANT OR CLOSE IN

TARGET, THE ATTITUDE OF THE AIRCRAFT MUST BE CHANGED.

NOSE UP FOR GREATER RANGE, AND NOSE DOWN FOR A CLOSER

RANGE; THIS IS SIMILAR TO ELEVATING OR DEPRESSING

INCORRECTLY WILL RESULT IN INACCURACY. IMPROPERLY
TRAINED PILOTS CAN CAUSE SIGNIFICANT ERROR, BY APPLYING

THE BARREL OF A TANK GUN. HOVER FIRE AT OTHER THAN

THE NORMAL RANGE REQUIRES A TECHNIQUE THAT IF DONE

LIDE 5 ON

(TRANSLATION)

INCORRECT HELICOPTER CONTROL TECHNIQUES.

GUNNERY TRAINING, AS WITH ANY OTHER SUBJECTS

MUST BEGIN WITH THE BASICS. AVIATORS MUST LEARN

WEAPONS SYSTEMS FUNCTION, THEIR CHARACTERISTICS AND

CAPABILITIES.

#### (TRANSLATION)

HE MUST KNOW HOW TO OPERATE THE SYSTEM, BORESIGHT AND ZERO, LOAD IT AND MAKE MINOR REPAIRS IF NO GROUND SUPPORT PERSONNEL ARE AVAILABLE. DIFFERENT WEAPONS REQUIRE DIFFERENT ENGAGEMENT TECHNIQUES, AND A KNOWLEDGE OF WEAPONS CHARACTERISTICS IS NECESSARY.

### (TRANSLATION)

SLIDE 6 ON A KNOWLEDGE OF CAPABILITIES WILL ENABLE THE AVIATOR

TO SELECT THE PROPER WEAPON FOR THE TARGET. FOR

EXAMPLE, THE TOW MISSILE IS NOT APPROPRIATE FOR EXPOSED

INFANTRY, NOR IS A MACHINE GUN APPROPRIATE FOR A TANK.

ESTIMATION OF RANGE TO THE TARGET IS CRITICAL, TO

ACHIEVE IMMEDIATE TARGET EFFECT, AND BE WITHIN EFFECTIVE

RANGE OF THE WEAPONS SYSTEM. KNOWLEDGE OF ENEMY

TACTICAL VEHICLES, AND THEIR CAPABILITIES, IS NECESSARY

SO THE AVIATOR KNOWS WHICH VEHICLE CONSTITUTES

THE GREATEST THREAT, AND WHICH ONE TO ENGAGE FIRST. TEAM

COORDINATION BECOMES EXTREMELY IMPORTANT IN IDENTIFYING

AND ENGAGING TARGETS.

#### (TRANSLATION)

SLIDE 7 ON

UNCOORDINATED TARGET ENGAGEMENTS WILL WASTE

AMMUNITION AND WILL NOT PERMIT THE ENGAGEMENT OF ALL

ENEMY TARGETS SIMULTANEOUSLY. A TANK CAN ONLY BE

KILLED ONCE, ALL OTHER TARGET HITS ARE WASTED.

(TRANSLATION)

THE JUNIOR INFANTRY OR ARMOR LEADER AND IT IS EQUALLY IMPORTANT TO AVIATION USERS. TO INSURE MAXIMUM EFFECTIVENESS OF ARMED HELICOPTERS, ALL MEMBERS OF THE COMBINED ARMS TEAM MUST THOROUGHLY UNDERSTAND HOW TO PLAN THEIR EMPLOYMENT.

SLIDE 7 OFF

## (TRANSLATION)

WITHIN THE US ARMY, INITIAL QUALIFICATION IN THE

ATTACK HELICOPTER CONSISTS OF BASIC AIRCRAFT TRANSITION

FLIGHT TRAINING, AND LEARNING WEAPONS SYSTEMS. ACTUAL

FIRING IS LIMITED TO THE APPROXIMATE NUMBER, AND VARIETY

OF ROUNDS, ONE AH-1G CAN CARRY FULLY LOADED. THE AVIATOR

BECOMES FAMILIAR WITH THE AIRCRAFT WEAPONS SYSTEMS, BUT

REQUIRES ADDITIONAL TRAINING TO BE COMBAT EFFECTIVE,

(TRANSLATION)

LIDE 8 ON

ONCE TRAINED IN THE ATTACK HELICOPTER, AND ITS WEAPONS SYSTEMS, THE AVIATOR IS INTEGRATED INTO HIS UNIT GUNNERY TRAINING AND QUALIFICATION PROGRAM.

USE POINTER

ARMY GUNNERY TRAINING IS A PHASED, (PAUSE) YEAR LONG
PROGRAM, (PAUSE) THAT INCLUDES THE TOTAL UNIT TACTICAL
TRAINING REQUIREMENTS. IT INVOLVES TERRAIN FLIGHT,
NIGHT AND TACTICAL INSTRUMENT TRAINING AND ALL THOSE
RELATED SUBJECTS DISCUSSED EARLIER. IT PROGRESSES
FROM SIMPLE SKILLS DONE BY THE INDIVIDUAL TO COMPLEX
MULTIPLE HELICOPTER TRAINING EXERCISES CONDUCTED BY
THE UNIT AND THE COMBINED ARMS TEAM.

# (TRANSLATION)

SLIDE 9 ON ACTUAL RANGE FIRING IS ALSO PROGRESSIVE IN SKILL
USE POINTER DEMANDS AND COMPLEXITY. IT BEGINS WITH BASIC, KNOWN

TO TARGETS AT UNKNOWN RANGES, WHERE THE AIRCRAFT CREW
MUST IDENTIFY THE TARGET, ESTIMATE THE RANGE, SELECT
THE CORRECT WEAPONS SYSTEM AND USE PROPER ENGAGEMENT
TECHNIQUES. FIRING EXERCISES ARE CONDUCTED DAY AND
NIGHT AND EMPHASIZE USE OF TERRAIN FLIGHT SKILLS.

#### (TRANSLATION)

THE PHASES OF TRAINING ARE INDIVIDUAL, CREW,

TEAM, AND UNIT TRAINING. RANGE FIRING AND ALL

THE OTHER SKILLS ARE DONE THROUGHOUT THE YEAR, THIS

INSURES THAT PROFICIENCY IN TACTICAL FLYING AND WEAPONS

FIRING IS MAINTAINED AT ALL TIMES.

EVERY PHASE OF TRAINING, REINFORCES PROFICIENCY IN LEARNED SKILLS, WITH COMBAT READINESS AS THE GOAL. IT

IS A COMPREHENSIVE PROGRAM THAT INVOLVES ALL THE ELEMENTS OF UNIT PREPARATION FOR COMBAT.

#### (TRANSLATION)

SLIDE 10 ON

GUNNERY TRAINING REQUIRES A LARGE AMOUNT OF

USE POINTER

RESOURCES IN MEN, EQUIPMENT AND RANGE FACILITIES. OUR UNIT TRAINING PROGRAM CALLS FOR ONE AH-1, IN ONE YEAR OF TRAINING, TO FIRE 23,250 ROUNDS OF 7.62MM, (PAUSE) 600 ROUNDS OF 40MM, (PAUSE) 406 2.75 INCH ROCKETS (PAUSE) AND 2 TOW. FOR THOSE AIRCRAFT EQUIPPE) WITH 20 OR 30MM THEY WILL FIRE 2000 ROUNDS ANNUALLY. THIS INFORMATION MUST BE MULTIPLED TIMES THE NUMBER OF AIRCRAFT FIRING. THESE ARE RECOMMENDED AMOUNTS AND WILL GIVE YOU SOME IDEA OF THE AMMUNITION

EXPENDED IN TRAINING.

RANGES TO ACCOMMODATE THIS FIRING MUST BE VERY

LARGE TO PROVIDE MANEUVER SPACE AND REALISM AS WELL AS

AN ADEQUATE IMPACT AREA. IT MAY BE ADVANTAGEOUS TO

CONCENTRATE OPERATING ONE MAJOR RANGE COMPLEX AND

SCHEDULE ALL THE UNITS' TRAINING TO USE THIS ONE

FACILITY. THIS WOULD SAVE CONSTRUCTION OF

DUPLICATE RANGES.

SLIDE 10 OFF

#### (TRANSLATION)

THERE IS NO SUBSTITUTE FOR PRACTICE; HOWEVER,

AMMUNITION IS VERY EXPENSIVE AND RANGE FACILITIES MAY

NOT ALWAYS BE AVAILABLE.

SLIDE 11 ON

THE US ARMY IS DEVELOPING A TOW GUNNERY

TRAINING DEVICE TO INCREASE TRAINING EFFECTIVENESS

AND REDUCE THE HIGH COSTS ASSOCIATED WITH GUNNERY

TRAINING. IT IS TITLED, THE HELICOPTER INSTALLED, TELEVISION MONITOR AND RECORD SYSTEMS, COMMONLY CALLED HITMORE.

A SYSTEM OF THIS TYPE SHOULD BE WELL WITHIN THE TECHNOLOGY OF YOUR COMMERCIAL INDUSTRY. IT IS EQUALLY ADAPTABLE TO THE 500 M-D WITH TOW AS IT IS TO THE AH-1.

### (TRANSLATION)

USE POINTER IT CONSISTS OF A CAMERA MOUNTED IN THE TELESCOPIC SIGHT UNIT OF TOW SYSTEM (PAUSE) AND USES A RECORDER OR TV MONITOR FOR INSTRUCTOR USE.

SLIDE 12 ON

IT ALLOWS THE INSTRUCTOR TO VIEW THE SAME PICTURE THAT THE STUDENT GUNNER SEES THROUGH THE TELESCOPIC SIGHT UNIT. THE INSTRUCTOR CAN

MAKE ON THE SPOT CORRECTIONS OF THE STUDENT. USING
THE RECORDER THE STUDENT CAN REVIEW HIS TRAINING
AND NOTE ERRORS.

A DEVICE OF THIS TYPE COULD AID YOUR TRAINING EFFECTIVENESS, REDUCE COSTS AND BE RELATIVELY, INEXPENSIVE IN TERM OF AMMUNITION EXPENDED.

SLIDE 12 OFF

(TRANSLATION)

ONCE THE AVIATOR HAS ATTAINED A REQUIRED LEVEL OF PROFICIENCY IT MUST BE MAINTAINED. TRAINING PROGRAMS SHOULD BE ESTABLISHED THAT KEEP THE AVIATOR AT THE DESIRED LEVEL OF PROFICIENCY. AS DISCUSSED, THE QUALIFICATION PROGRAM BEGINS WITH BASIC SKILLS AND PROCEEDS FROM RELATIVELY SIMPLE TO COMPLEX GUNNERY PROBLEMS.

DURING THIS PRESENTATION OF HELICOPTER GUNNERY,

WE HAVE SEEN, THAT ALL THE PREVIOUSLY DISCUSSED TACTICS

SUCH AS TERRAIN AND NIGHT FLIGHT ARE REINFORCED IN

GUNNERY TRAINING. IT IS A COMPREHENSIVE PROGRAM THAT

REQUIRES THOROUGH AND CONTINUOUS TRAINING OF ALL

AVIATORS AND THOSE GROUND UNIT COMMANDERS THAT MAY

USE THE SERVICES OF THE ATTACK HELICOPTER.

### (TRANSLATION)

THE NEXT SUBJECT FOR DISCUSSION IS AIRSPACE MANAGEMENT.

SLIDE 1

IN ADDITION TO CONTROLLING THE MANEUVER UNITS,

THE GROUND FORCES COMMANDER MUST MANAGE THE AIRSPACE

IMMEDIATELY ABOVE HIS AREA OF OPERATION. AIRSPACE

MANAGEMENT IS A SERVICE PROVIDED TO MAXIMIZE THE

EFFECTIVENESS OF THE GROUND UNITS BY PROMOTING SAFE,

EFFICIENT AND FLEXIBLE USE OF THE AIRSPACE. IT SHOULD

PROVIDE FOR MINIMUM MUTUAL INTERFERENCE WITHOUT PLACING

UNNECESSARY RESTRICTIONS ON THE AIRSPACE USERS.

# (TRANSLATION)

AVIATION HAS PROVEN TO BE AN EFFECTIVE ASSET

TO SUPPORT COMBAT OPERATIONS. JUST HOW EFFECTIVELY

AVIATION SUPPORTS COMBAT OPERATIONS IS DEPENDENT

ON THE MANEUVER COMMANDER'S ABILITY TO INTEGRATE

AVIATION INTO THE TACTICAL SCHEME. BECAUSE AIRSPACE
MANAGEMENT IS NECESSARY TO MAXIMIZE AVIATION SUPPORT,
IT IS THE RESPONSIBILITY OF THE GROUND FORCES

COMMANDER. ONLY HE HAS THE AUTHORITY TO APPROVE OR
DENY USE OF THE AIRSPACE, AS WILL BEST SUPPORT HIS
GROUND OPERATIONS.

#### (TRANSLATION)

SLIDE 2

AT CORPS LEVEL AND ABOVE AIRCRAFT CONTROL CAN

BE SOMEWHAT FORMAL. AIRCRAFT ARE FAR ENOUGH REMOVED

FROM THE ENEMY AIR DEFENSE THREAT TO ALLOW FLIGHT

AT HIGHER ALTITUDES. THE AIRSPACE USER CAN ACCOMPLISH

HIS MISSION WITHOUT THE NEED TO DEVIATE FROM A SET

OF PROCEDURES. AIRSPACE MANAGEMENT AT THIS LEVEL

IS GENERALLY MORE RESTRICTIVE ESPECIALLY FOR THOSE

AIRCRAFT OPERATING AT HIGHER ALTITUDES. IT

INVOLVES STANDARD USE ROUTES, BOTH IFR AND VFR. IT

REQUIRES COORDINATION, REPORTING, AND ADHERENCE TO

SET REQUIREMENTS. IN GENERAL, IT IS VERY SIMILAR TO

A PEACETIME AIR TRAFFIC CONTROLLED ENVIRONMENT.

AIRSPACE MANAGEMENT THEREFORE IS MORE FORMAL TO PROVIDE

THESE CONTROLS. AT CORPS LEVEL AND ABOVE, THERE ARE

STAFF ELEMENTS ESPECIALLY FOR AIRSPACE MANAGEMENT.

#### (TRANSLATION)

SLIDE 3

AT DIVISION LEVEL AND BELOW THERE IS A GREATER

NEED FOR FLEXIBILITY IN AIRCRAFT OPERATIONS.

AIRCRAFT ARE OPERATING MUCH CLOSER TO THE ENEMY

AIR DEFENSES AND NEED MORE FREEDOM OF MOVEMENT TO AVOID DETECTION AND ENGAGEMENT. ADDITIONALLY, THE TACTICAL SITUATION IS CONSTANTLY CHANGING AND OFTEN WILL NOT PERMIT TIME FOR DETAILED PLANNING. THE GROUND FORCES COMMANDER MUST BE ABLE TO QUICKLY MOVE HIS SUPPORT ELEMENTS TO BEST SUPPORT HIS OPERATIONS. HE MUST BE ABLE TO EMPLOY ARMY AND AIR FORCE AIRCRAFT, AS WEll AS FRIENDLY ARTILLERY AND AIR DEFENSE UNITS TO DEFEAT THE ENEMY. AIRSPACE MANAGEMENT AT THIS LEVEL IS LESS FORMAL TO ALLOW FOR THE FLEXIBILITY NEEDED. AIRCRAFT OPERATING AT TERRAIN FLIGHT LEVELS CAN OPERATE ALMOST UNRESTRICTED. THROUGH ADVISORIES FROM THE FLIGHT COORDINATION CENTER OR FLIGHT OPERATIONS CENTER,

AIRCRAFT ARE INFORMED OF ARTILLERY TIRES, AIR
DEFENSE LOCATIONS OR OTHER ACTIVITIES.

#### (TRANSLATION)

SLIDE 4

THE COMMANDERS CAN USE CONTROL MEASURES TO

USE POINTER

COORDINATE AIRSPACE USAGE WITHOUT SEVERELY
RESTRICTING OPERATIONS. COORDINATING ALTITUDES,
CONTROL ZONES AND SPECIAL ROUTES ARE A FEW OF THE
CONTROL MEASURES AVAILABLE. COORDINATING ALTITUDES
ARE A MEANS TO SEPARATE AIRCRAFT BY MISSION PROFILE.
IT ESTABLISHES AN ALTITUDE WHERE AIRCRAFT SHOULD
COORDINATE WHEN DEVIATING FROM THEIR NORMAL FLIGHT
PROFILES. TWO TYPES OF CONTROL ZONES MAY BE USED

BY MANEUVER COMMANDERS. ONE IS TEMPORARY AND ONE

PERMANENT. EACH ARE PROVIDED TO REQUIRE AIRSPACE

USERS TO COURDINATE WHEN OPERATING IN AN AREA OF RELATIVELY HIGH TRAFFIC DENSITY. SPECIAL ROUTES CAN BE USED TO CHANNEL AIR TRAFFIC FOR SEPARATION. USUALLY THE COMMANDER OR HIS STAFF EFFECT THE AIRSPACE MANAGEMENT. BOTH MUST BE KNOWLEDGABLE OF THE MEANS TO MANAGE THE USE OF THE AIRSPACE. GENERALLY, THIS MANAGEMENT INVOLVES INFORMING THE VARIOUS UNITS OF SIMULTANEOUS AIRSPACE USAGE. WITHOUT EFFECTIVE COORDINATION, THERE IS A GREATER RISK OF FRIENDLY AIRCRAFT LOSSES DUE TO COLLISIONS. FRIENDLY ARTILLERY FIRES OR ENGAGEMENT BY FRIENDLY AIR DEFENSE UNITS.

### (TRANSLATION)

BECAUSE MANEUVER COMMANDERS AND STAFF OFFICERS

MUST PROVIDE AIRSPACE MANAGEMENT, THEY MUST RECEIVE SOME TRAINING ON HOW TO BEST COORDINATE AIRSPACE USAGE. THIS IS BEST ACCOMPLISHED WITHIN YOUR MILITARY SCHOOL AND THEN REINFORCED THROUGH TRAINING EXERCISES WITHIN YOUR UNITS. YOUR MILITARY SCHOOLS MAY WANT TO DEVOTE TIME TO TEACH COMMANDERS HOW TO EMPLOY AVIATION ASSETS AND MANAGE THEIR AIRSPACE.

### (TRANSLATION)

SLIDE 5

A TRAINING PROGRAM FOR AIRSPACE MANAGERS SHOULD INCLUDE:

- (1) ALL WEAPONS SYSTEMS AND AIRSPACE USERS , WITHIN THE COMBAT ZONE.
  - (2) PLANNING FOR THE USE OF THE AIRSPACE.

- (3) APPLICATION OF CONTROL PRINCIPLES AND CONTROL MEASURES.
  - (4) CLOSE COORDINATION WITH AIR DEFENSE ACTIVITIES.
- (5) MAXIMUM FREEDOM OF MOVEMENT CONSISTENT WITH ACCEPTABLE RISK.
- (6) MAXIMUM FLEXIBILITY TO CHANGE WITH THE TACTICAL SITUATION.
- (7) BOTH POSITIVE AND PROCEDURAL CONTROL
  MEASURES WHICH MAY BE USED.

# (TRANSLATION)

SLIDE 6

ADDITIONALLY, EACH OF THE AIRSPACE USERS (THE ARTILLERY, AIR DEFENSE AND AVIATORS) MUST KNOW HOW TO COORDINATE THEIR ACTIVITIES. IT IS VERY IMPORTANT

THAT THEY RECEIVE TRAINING ON HOW THEIR ACTIVITIES

AFFECT EACH OTHER AND HOW TO BEST COORDINATE THEIR

ACTIONS.

#### (TRANSLATION)

FOR AVIATION TO BE AN EFFECTIVE PART OF THE

COMBINED ARMS TEAM, AIRSPACE MANAGEMENT MUST BE

PROVIDED. EACH MEMBER OF THE COMBINED ARMS TEAM

MUST DO HIS SHARE TO MAXIMIZE SUPPORT OF THE COMBAT

OPERATIONS. AIRSPACE MANAGEMENT PROVIDES THE MEANS

WHEREBY A COORDINATED EFFORT CAN INFLUENCE THE

TACTICAL SITUATION.

SLIDE 6 OFF

### (TRANSLATION)

THIS DISCUSSION ON AIRSPACE MANAGEMENT IS VERY

BRIEF AND NOT INTENDED TO COVER THE SUBJECT IN GREAT

DETAIL. A DETAILED DISCUSSION ON AIRSPACE MANAGEMENT

IS INCLUDED IN MANAGEMENT WORKSHOP TWO.

(TRANSLATION)

THE NEXT SUBJECT FOR DISCUSSION IS AIR TO AIR COMBAT.

**■**.IDE 1

DURING THE ARAB ISRAELI WAR IN 1973, IT WAS

FOUND, THAT THE HELICOPTER WAS NO LONGER SAFE TO

OPERATE FREELY, WITH LITTLE OR NO CONCERN ABOUT

HOSTILE AIRCRAFT. AS THE ROLE OF THE HELICOPTER

EXPANDED FROM PRIMARY TROOP CARRIERS, TO ATTACK

AIRCRAFT, THE NECESSITY TO COUNTER THIS DEADLY THREAT

INCREASED. THE HELICOPTER WAS BEING USED TO DESTROY

TANKS AND KILL TROOPS, AND WAS DOING SO WITH A

LETHALITY NEVER BEFORE REALIZED.

SLIDE 1A

#### (TRANSLATION)

THE INCREASING QUANTITY, AND TECHNOLOGICAL

ADVANCEMENTS OF THREAT ATTACK HELICOPTERS IN RECENT

YEARS HAVE BEEN DRAMATIC. THESE ADVANCES HAVE

CREATED A NEW DIMENSION IN, THE AIR-LAND CONFLICT.

TACTICAL COMMANDERS HAD TO BEGIN DIRECTING THEIR

AIR FORCES TOWARDS AIR TO AIR ENGAGEMENTS, IN AN ATTEMPT TO ELIMINATE THIS THREAT. THE POSSIBILITY OF OUR HELICOPTERS BEING ATTACKED BY OTHER AIRCRAFT AND THE NEUTRALIZATION OF THIS COMBAT POWER, CAUSED MAJOR CONCERN AMONG THE COMMANDERS. THE UNITED STATES ARMY, TRAINING AND DOCTRINE COMMAND IN CONJUNCTION WITH THE UNITED STATES AIR FORCE, TACTICAL AIR COMMAND, INITIATED A JOINT STUDY TO EVALUATE THIS PROBLEM.

# (TRANSLATION)

SLIDE 2 THE EVALUATION WAS NAMED THE JOINT COUNTERING OF
ATTACK HELICOPTER TACTICS, DEVELOPMENT AND
EVALUATION OR J-CATCH.

**建LIDE** 3

IT BEGAN WITH A SIX PHASED TEST PROGRAM DESIGNED

TO DEVELOP JOINT TACTICS AND PROCEDURES TO COUNTER

THE THREAT ATTACK HELICOPTER.

# (TRANSLATION)

SLIDE 4

THE FIRST PHASE WAS A SIMULATOR TEST CONDUCTED

TO DEVELOP FIGHTER ATTACK TECHNIQUES AGAINST HELICOPTERS

AND TO ACCESS FIGHTER WEAPONS PERFORMANCE.

#### (TRANSLATION)

SLIDE 5

DURING PHASE II THE ARMY DEVELOPED BASIC TACTICS

FOR CONTINUED TESTING, OBTAINED KILL RATIOS BETWEEN

FRIENDLY ATTACK HELICOPTER TEAMS AND THREAT ATTACK

HELICOPTERS; AND IDENTIFIED TRAINING REQUIREMENTS,

HARDWARE NEEDS/IMPROVEMENTS AND AIRCRAFT SHORTCOMINGS.

### (TRANSLATION)

SLIDE 6

DURING PHASE III AIR FORCE FIGHTERS WERE PLAYED
AGAINST THE THREAT HELICOPTER FORCE. THE OBJECTIVE
WAS TO ASSESS FIGHTER EMPLOYMENT IN THE COUNTER
HELICOPTER ROLE.

### (TRANSLATION)

SLIDE 7

DURING PHASE IV, THE ATTACK HELICOPTER TEAM WAS COMBINED WITH AIR FORCE FIGHTER AIRCRAFT AND WORKED AGAINST THE THREAT HELICOPTER FORCE SUPPORTED WITH THREAT TACTICAL FIGHTERS. THE OBJECTIVE WAS TO ASSESS COORDINATION REQUIREMENTS OF THE ARMY ATTACK HELICOPTER TEAMS AND AIR FORCE FIGHTER AIRCRAFT WHILE THEY ARE COUNTERING THE THREAT ATTACK HELICOPTER FORCE.

SLIDE 8

PHASE V WILL BE CONDUCTED SOMETIME IN 1980 OR

1981 TO EVALUATE ABILITY OF US GROUND FORCES AND

SUPPORTING AIR DEFENSE SYSTEMS TO COUNTER THREAT

ATTACK HELICOPTER FORCES.

### (TRANSLATION)

SLIDE 9

THE DATE AND LOCATION OF PHASE VI IS NOT YET

DETERMINED. IT WILL ACCESS THE COMBINED ARMS

CAPABILITIES FOR COUNTERING THREAT ATTACK HELICOPTER

AND FIGHTER FORCES IN REALISTIC COMBAT SITUATIONS.

### (TRANSLATION)

SLIDE 10

EMERGING RESULTS, FROM THE WORK COMPLETED TO DATE, HAVE PRODUCED SOME INTERESTING FACTS THAT WE CAN EXPLORE.

FIRING POSITIONS AND OBSERVATION POSITIONS THAT

MAY BE ADVANTAGEOUS FOR ATTACKING GROUND TARGETS MAY

BE INADEQUATE TO DEFEND AGAINST AN AIR THREAT. WHEN

THE THREAT IS OPERATING AT 300 TO 500 FEET ABOVE THE

TERRAIN HE CAN LOOK DOWN AND SHOOT DOWN.

### (TRANSLATION)

VISUAL CONTACT BETWEEN THE SCOUT AND ATTACK

HELICOPTERS IS CRITICAL FOR POSITIVE CONTROL TO

ASSURE EMPLOYMENT AT THE RIGHT MOMENT. FIRING TIMES

AGAINST A THREAT HELICOPTER ARE CRITICAL BECAUSE THE

THREAT FLIGHT PROFILE PRESENTS SHORT TIMES FOR FIRING

AT RAPIDLY MOVING, CROSSING TARGETS WHICH IS DEMANDING

OF CURRENT WEAPONS AND CREWS.

ROUTES BETWEEN FIRING POSITIONS THAT PROVIDE MASKING FROM GROUND FORCES MAY NOT DO THE SAME AGAINST A THREAT ATTACK HELICOPTER. ROUTES BETWEEN FIRING POSITIONS MUST BE SELECTED WITH THIS FACTOR IN MIND.

THE SCOUTS LOCATION MUST PROVIDE HIM WITH MASKING,

AND VISIBILITY -- BOTH OF THE ENEMY AND OF FRIENDLY ATTACK

HELICOPTERS. THE SCOUTS LOCATION IS NOT NECESSARILY

A FUNCTION OF DISTANCE BUT RATHER ONE OF VISUAL

CONTACT.

### (TRANSLATION)

TERRAIN FLIGHT, PARTICULARLY NAP-OF-THE-EARTH,
GIVES THE FRIENDLY ATTACK TEAM THE ADVANTAGE OF FIRST
ACQUISITION WHICH IS CRITICAL DURING AN ATTACK BUT
CONCURRENTLY MINIMIZES ACQUISITIONS BY THE THREAT.

#### (TRANSLATION)

THE EXTREMELY FAST MOVING ACTION OF THE AIR-TO-AIR BATTLE REQUIRES A TEAM EFFORT TO WIN; INTERNALLY WITHIN THE CREW; EXTERNALLY BETWEEN SCOUTS AND ATTACK HELICOPTERS, AND BETWEEN ATTACK HELICOPTERS AND FIGHTERS. THE SCOUT PLAYS AN EXTREMELY CRITICAL ROLE. THE TIME AVAILABLE TO ENGAGE A THREAT ATTACK HELICOPTER IS SHORT AND PRECISE. THE ATTACK HELICOPTER MUST BE CALLED UP TO FIRE AT A PRECISE MOMENT OR THE KILL WILL BE MISSED, THEREBY LEAVING THE FRIENDLY ATTACK HELICOPTER EXTREMELY VULNERABLE.

### (TRANSLATION)

PHASE II GENERALLY REVEALED THAT THE ATTACK

HELICOPTER TEAM EXCHANGE RATIOS WERE FAVORABLE. I

WOULD LIKE TO EMPHASIZE THAT THESE RATIOS WERE BASED

ON AIR-TO-AIR COMBAT ONLY AND DID NOT ADDRESS THE

EFFECTS OF THE COMBINED ARMS WEAPONRY.

### (TRANSLATION)

SLIDE 11

TRAINING REQUIREMENTS WERE IDENTIFIED IN MANY AREAS, THE MOST NOTABLE WERE IN NOE FLIGHT,

NAVIGATION, CREW INTEGRITY, TEAM COORDINATION AND RANGE ESTIMATION.

#### (TRANSLATION)

MASKING, NOE MUST BE USED TO THE FULLEST POSSIBLE,

EXTENT. FIVE FEET OF ALTITUDE CAN MEAN THE

DIFFERENCE BETWEEN DETECTION AND DESTRUCTION. THIS

TYPE NOE TRAINING MUST RECOGNIZE THAT OCCASIONAL
TREE STRIKES MAY OCCUR.

#### (TRANSLATION)

THE FAST MOVING SITUATION OF AIR-TO-AIR COMBAT

DOES NOT ALLOW EXTENSIVE INTERNAL CREW DISCUSSIONS.

REACTION MUST BE IMMEDIATE AND CORRECT THE FIRST TIME.

INABILITY TO LOCATE A CONTROL KNOB CAN MEAN THE

DIFFERENCE BETWEEN KILLING OR BEING KILLED.

### (TRANSLATION)

TO MEET THE CHALLENGE OF THE THREAT ATTACK HELICOPTER, TEAMWORK IS VITAL.

# (TRÂNSLATION)

RANGE ESTIMATION TO AERIAL TARGETS IS CRITICAL

AND WAS FOUND TO BE MORE DIFFICULT THAN ESTIMATING

RANGES TO GROUND TARGETS.

#### (TRANSLATION)

SLIDE 12

SHORTCOMINGS WERE NOTED IN BOTH AIRCRAFT
SYSTEMS AND HARDWARE ITEMS.

THE ATTACK HELICOPTER, OTHER THAN WEAPONS
SYSTEMS, HAD TWO NOTABLE SHORTCOMINGS.

THE REFLECTION FROM THE MAIN ROTOR SYSTEM AND FLAT PLATE CANOPY WERE RESPONSIBLE FOR 53% OF THE FIRST ACQUISITION GAINED BY THE THREAT FORCE, EVEN THOUGH THE ROTOR SYSTEMS WERE PAINTED FLAT BLACK.

THE NUMBER OF SWITCHES IN THE AH-1S AND THE LOCATION OF SOME OF THESE SWITCHES CAUSED THE LOSS OF NUMEROUS FIRINGS.

(TRANSITION)

THE TEST DEMONSTRATED THAT ACCELERATION AND

MANEUVERABILITY WERE CRITICAL. HELICOPTERS LACKING

THAT CAPABILITY MORE OFTEN BECAME ENEMY HELICOPTER

TARGETS. SLOWER HELICOPTERS WERE A LIABILITY WHEN

OPERATING WITH HELICOPTERS THAT POSSESSED GREATER

SPEED AND MOBILITY.

#### (TRANSLATION)

TESTING RESULTS SHOW THAT AN ATTACK HELICOPTER
WITH AN UNARMED SCOUT WAS KILLED MORE OFTEN THAN AN
ATTACK HELICOPTER WITH AN ARMED SCOUT. THIS SIMPLY
MEANS AN ARMED SCOUT OFFERS MORE PROTECTION.

# (TRANSLATION)

WEAPONS SYSTEMS SHORTCOMINGS MUST BE CONSIDERED
FROM THE VIEW THAT NONE OF THE AH-1S WEAPONS SYSTEMS

WERE DESIGNED FOR AIR-TO-AIR ENGAGEMENTS. THE CANNON IS A LOW RATE OF FIRE WEAPON WITH A FIRE CONTROL SYSTEM DESIGNED TO BE USED AGAINST GROUND TARGETS.

USE OF A CANNON IN AN AIR-TO-AIR COMBAT ROLE WOULD BE MORE EFFECTIVE, WITH A HIGH RATE OF FIRE, AND A PATH-PREDICTIVE, FIRE CONTROL SYSTEM.

THE TOW WAS DESIGNED TO ENGAGE RELATIVELY SLOW

MOVING, GROUND TARGETS, NOT A 160 KNOT PLUS HELICOPTER.

IT CAN BE USED AGAINST HEAD-ON TARGETS, AND FOR TAIL

SHOTS, BUT NOT EFFECTIVELY FOR CROSSING TARGETS. IN

ADDITION, THE EXPOSURE TIME, HEAD-TO-HEAD, WITH A

THREAT HELICOPTER IS UNDERSIRABLE.

PHASE III RESULTS REVEALED THAT THE F-4 AND

F-15 ARE NOT IDEALLY SUITED TO THE ANTI-THREAT

HELICOPTER MISSIONS. THE A-10 IN PHASE III DID

BETTER AND CLOSELY APPROXIMATED THE AH-1S IN PHASE II.

THIS MEANS TO US, THE SLOWER FLYING MORE

MANEUVERABLE AIRCRAFT WERE MORE EFFECTIVE AGAINST

HELICOPTERS THAN WERE THE VERY HIGH PERFORMANCE

FIGHTERS.

### (TRANSLATION)

THE OVERALL RESULTS OF PHASES I THROUGH IV,

CLEARLY INDICATE, THE NEED TO CONTINUE THE J-CATCH

PROGRAM THROUGH PHASE VI. THIS WILL ALLOW, THE

TOTAL EFFECT, OF THE US AIR-LAND FORCES TO BE EVALUATED.

TO THIS END, PHASE V HAS BEEN SCHEDULED, AND PLANS ARE BEING DEVELOPED FOR PHASE VI.

### (TRANSLATION)

SLIDE 13

1

NEAR TERM PRODUCTS OF J-CATCH WILL BE CHANGES

USE POINTER

IN TRAINING LITERATURE AND PROGRAMS OF INSTRUCTION

FROM THE TRAINING DEVELOPER, AND REQUIREMENTS

FOR THE MATERIEL DEVELOPER TO INVESTIGATE HARDWARE

SHORTCOMINGS. SOME OF THE AREAS THE MATERIEL

DEVELOPER WILL BE INVESTIGATING, ARE THE NEED FOR AN

AIR-TO-AIR SELF-DEFENSE MISSILE, VULNERABILITY

REDUCTION, ARMED VS UNARMED SCOUT AND SPEED/PAYLOAD

REQUIREMENTS FOR ALL CURRENT AND FUTURE ARMY HELICOPTERS.

THIS STUDY IS VITALLY IMPORTANT TO OUR FUTURE

IN AIR-TO-AIR COMBAT.

CLIDE 14

HOWEVER, IT IS POSSIBLE WE MAY HAVE TO FIGHT
THAT BATTLE TOMORROW. CURRENT DOCTRINE AND COMMON
SENSE MUST BE USED IN THAT POSSIBILITY.

USE POINTER

IN CONCERNING OURSELVES WITH THE AIR THREAT WE MUST KEEP IN MIND THE GROUND THREAT. WE CANNOT CONCENTRATE ON ONE AND IGNORE THE OTHER.

NOT BE MADE UNLESS THE CAPABILITIES OF THE FRIENDLY

HELICOPTER IS GREATER THAN THE ENEMY AIRCRAFT. IF

ATTACK IS NECESSARY, AMBUSH MAY BE THE PREFERRED TACTIC

USING SURPRISE AND CONFUSION TO ADVANTAGE. ATTACK OF

ENEMY HIGH PERFORMANCE AIRCRAFT IS NOT A FEASIBLE

TACTIC.

IF ATTACKED BY THE ENEMY HIGH PERFORMANCE AIRCRAFT. USE TERRAIN FLIGHT, AND TRY TO LURE THE ENEMY, INTO FFFECTIVE RANGE OF FRIENDLY AIR DEFENSE WEAPONS. AITEMPT TO CAUSE HIGH PERFORMANCE AIRCRAFT, TO INCREASE DIVE ANGLES. THIS DECREASES THEIR MANEUVERABILITY, AND RECOVERY MUST BE INITIATED AT HIGHER ALTITUDES.

### (TRANSLATION)

SLIDE 15

THIS STUDY SHOULD EMPHASIZE TO YOU OUR CONCERN ON THIS SUBJECT. CONTINUED EVALUATION WILL ASSIST DEVELOPING NEW EQUIPMENT AND TACTICS TO MEET THE AIR THREAT.

USE POINTER A STUDY OF YOUR ENEMY'S PLANNED EMPLOYMENT OF HELICOPTERS AND HIGH PERFORMANCE AIRCRAFT WILL DIRECT YOUR ACTIONS IN TACTICAL TRAINING. (PAUSE) DO YOU

ANTICIPATE ATTACK BY ENEMY AIR ELEMENTS? (PAUSE)

HAS ROKAF ESTABLISHED AN AIR SUPERIORITY TACTIC? (PAUSE)

ARE HELICOPTER ATTACKS AGAINST ENEMY HELIBORNE OPERATIONS

ENVISIONED?

SLIDE ISOFF

•

### (TRANSLATION)

THE UNITED STATES LIKE THE REPUBLIC OF KOREA,

HAS RECOGNIZED THE POTENTIAL FOR AIR-TO-AIR COMBAT

INVOLVING HELICOPTERS. REMEMBER, WE HAVE ONLY LIMITED

DOCTRINE, AND SHARE YOUR CONCERN ON THIS SUBJECT.

### (TRANSLATION)

THE NEXT SUBJECT FOR DISCUSSION IS AIRCRAFT SURVIVABILITY EQUIPMENT.

SLIDE ON !

# AIRCRAFT SURVIVABILITY EQUIPMENT (ASE)

THE PRIMARY MEANS OF INCREASING AIRCRAFT

SURVIVABILITY IS TERRAIN FLIGHT. THE SAME

CONCEALMENT TECHNIQUES USED BY THE INFANTRYMAN AND

TANKER IS USED BY THE HELICOPTER. THIS ALONE DOES

NOT INSURE IMMUNITY FROM ENEMY WEAPONS. TOTAL IMMUNITY

IS IMPOSSIBLE; HOWEVER, SEVERAL MODIFICATIONS AND NEW

ITEMS OF EQUIPY HAVE BEEN DEVELOPED TO IMPROVE

AIRCRAFT SURVIVABILITY. THESE DEVELOPMENTS ARE

CALLED AIRCRAFT SURVIVABILITY EQUIPMENT.

### (TRANSLATION)

SLIDE 15 ON

USE POINTER

MOST AIRCRAFT ARE PAINTED WITH INFRA-RED
SUPPRESSIVE PAINT, SOME LIKE THE UH-1 SHOWN HERE ARE

EQUIPPED WITH INFRA-RED SUPPRESSION DEVICES. THESE

REQUIRE NO SPECIAL TRAINING OF THE AVIATOR. THEY
SIGNIFICANTLY REDUCE INFRA-RED EMISSIONS AND ALLOW
THE AVIATOR GREATER FREEDOM OF MOVEMENT ON THE
BATTLEFIELD.

#### (TRANSLATION)

SLIDE 3 ON

THE AN/APR-39 RADAR WARNING RECEIVER PROVIDES
WARNING OF RADAR SUPPORTED WEAPONS. IT INDICATES
PRESENCE OF A RADAR ACQUISITION SYSTEM, GIVES A
CHARACTERISTIC WARNING, INDICATES MODE OF OPERATION
AND GIVES DIRECTION TO THE RADAR SYSTEM.

### . (TRANSLATION)

SLIDE 17 ON THE SCOPE IS SHOWN MOUNTED IN AN AH-1. IT

USE POINTER HAS BEEN ADAPTED TO THE UH-1.

SLIDE 18 ON

WHEN ACQUIRED BY ENEMY RADAR SUCH AS THE

POINT TO SCOPE

WEAPON SHOWN HERE. A SIGNAL IS DISPLAYED ON THE SCOPE ALONG WITH A DISTINCT AUDIO SOUND HEARD

IN THE HEADSET.

#### (TRANSLATION)

SLIDE 19 ON

IN THE CASE OF THE ZSU-23-4 IT IS A REPETITIOUS

POINT TO DISPLAY

DISPLAY RATHER THAN A CONSTANT VISUAL SIGNAL. EVERY

SYSTEM HAS A CHARACTERISTIC DISPLAY AND AUDIO SIGNAL.

# (TRANSLATION)

SLIDE 20 ON

SOON TO BE EMPLOYED IS THE M-130 CHAFF AND FLARE DISPENSER. USED IN CONJUNCTION WITH THE AN/APR-39 IT CAN DISPENSE CHAFF OR FLARES TO DECEIVE OR CONFUSE ENEMY RADAR OR INFRA-RED

(TRANSLATION)

GUIDANCE SYSTEMS.

LIDE 21 ON ANOTHER DEVICE SOON TO BE EMPLOYED BY THE

US ARMY IS THE AN/ALQ-144. IT MOUNTS ON THE UH-1 IN THE LOCATION NORMALLY USED FOR THE ROTATING BEACON. IT SUPPLEMENTS THE INFRA-RED SUPPRESSION DEVICES AND EMITS A SIGNAL THAT CONFUSES AND DECEIVES ENEMY INFRA-RED GUIDED MISSILE SEEKERS.

## (TRANSLATION)

THIS IS THE AIRCRAFT SURVIVABILITY EQUIPMENT IN USE OR SOON TO BE USED BY THE US ARMY. YOU HAVE SOME OF THESE DEVICES AND AIRCRAFT MODIFICATIONS ON YOUR UH-1'S, AH-1'S AND 500 M-D'S. YOU MAY BE INTERESTED IN OTHERS.

SLIDE OFF

WE HAVE DISCUSSED SEVERAL TACTICAL SUBJECTS DURING THIS PRESENTATION. LET US NOW VERY BRIEFLY COVER HOW SOME OF THIS TRAINING IS ACCOMPLISHED IN THE US FOR ADVANCED STUDENT AVIATORS. IN THE FINAL PHASES OF TRAINING, THEY ARE TAUGHT TERRAIN FLYING, NIGHT OPERATIONS, TACTICAL INSTRUMENTS, AIRCRAFT SURVIVABILITY EQUIPMENT AND THOSE ELEMENTS OF AIRSPACE MANAGEMENT DEEMED NECESSARY FOR THE JUNIOR AVIATOR. THIS IS DONE TO REDUCE MANAGEMENT AND LOGISTIC PROBLEMS THAT WOULD ARISE IF TRAINING WERE CONDUCTED IN THE UNIT. IT PREPARES THE NEWLY GRADUATED AVIATOR TO I ! TEGRATE QUICKLY INTO THE AVIATION UNIT'S TRAINING PROGRAM.

TRANSITION INTO ANTI-ARMOR AND CARGO HELICOPTERS IS

DONE AT THE AVIATION SCHOOL. GUNNERY TRAINING IS

LIMITED TO FAMILIARIZATION FIRING AT THE SCHOOL WHILE

QUALIFICATION IS CONDUCTED IN THE UNITS. EMPLOYMENT

TECHNIQUES ARE TRAINED PRIMARILY IN THE UNIT.

# (TRANSLATION)

THEY REQUIRE DEDICATED AVIATOR TRAINING AND THOROUGH
SUBJECT BACKGROUND KNOWLEDGE. THEY ALSO REQUIRE THE
GROUND TACTICAL COMMANDER AND LOGISTICIAN TO UNDERSTAND
EMPLOYMENT CONSIDERATIONS IN BOTH TACTICAL AND SUPPORT
PLANNING MATTERS. SOME OF THE SUBJECTS DISCUSSED WILL
CREATE SIGNIFICANT MANAGERIAL AND LOGISTIC PROBLEMS.

WORKSHOPS THAT YOU DISCUSS THESE SUBJECTS WITH YOUR COUNTERPARTS IN THE MANAGEMENT AND LOGISTIC WORKSHOPS IN ORDER TO MAKE THE MOST APPROPRIATE RECOMMENDATIONS.

## (TRANSLATION)

GENTLEMEN, THANK YOU FOR YOUR ATTENTION. REMEMBER
THIS IS YOUR PROGRAM AND THE SOLUTIONS MUST SOLVE YOUR
PROBLEMS.

DO YOU HAVE ANY QUESTIONS ON THE MATERIAL I'VE
DISCUSSED BEFORE WE TAKE A BREAK?

# (PAUSE)

PLEASE LOOK AT THE DISPLAYS DURING THE BREAK.

I WILL BE AVAILABLE TO ANSWER QUESTIONS AND TRY TO

FURTHER EXPLAIN THE USE OF THE VARIOUS DEVICES.

#### AVIATION SAFETY SCRIPT

PREVENTION: DURING THIS PRESENTATION YOU WILL HEAR

REFERENCE TO AVIATION ACCIDENT PREVENTION, ACCIDENT

PREVENTION, AND AVIATION SAFETY PROGRAMS. FOR OUR PURPOSES,

THE TERMS ARE SYNONAMOUS. TODAY'S AIRCRAFT, SUPPORT EQUIP
MENT, FACILITIES, AND TRAINING ARE EXPENSIVE. THIS EXPENSE

PRESENTS US WITH THE NEED TO CONSERVE OUR VITAL RESOURCES

IN MEN AND MATERIEL.

# (TRANSLATION)

ROKA IS EXPERIENCING SUBSTANTIAL GROWTH, AND ASSOCIATED

WITH THAT GROWTH, HAS BEEN AN INCREASE IN THE TRAINING

REQUIREMENTS IN AVIATION. YOUR STATED INTEREST IN AVIATION

ACCIDENT PREVENTION, IS A POSITIVE STEP, IN ESTABLISHING AN

AN EFFECTIVE PROGRAM. TO ASSIST YOU IN THE DEVELOPMENT

OF YOUR ACCIDENT PREVENTION PROGRAM WE WILL SHARE WITH YOU

OUR OWN EXPERIENCES IN THIS SUBJECT.

# (TRANSLATION)

THE US ARMY SAFETY CENTER, IS RESPONSIBLE FOR ADMINISTERING
THE ARMY'S TOTAL ACCIDENT PREVENTION PROGRAM. IT HAS BEEN

EXPANDED, FROM A SINGLE FUNCTION ORGANIZATION THAT INVESTIGATED

AND RECORDED ACCIDENT DATA, TO AN OPERATION INVOLVING

SPECIALISTS IN MANY SKILLS. THE SAFETY CENTER EMPLOYS

PSYCHOLOGISTS, ANALYSTS, STATISTICANS, INVESTIGATORS AND

MANY OTHER SPECIALISTS.

THESE PEOPLE WORK TOGETHER TO DETERMINE THE CAUSES OF ACCIDENTS AND TO RECOMMEND PREVENTIVE MEASURES. THIS

ORGANIZATION REPORTS DIRECTLY TO THE DEPUTY CHIEF OF STAFF FOR PERSONNEL, DEPARTMENT OF THE ARMY, WHICH INDICATES THE HIGH LEVEL OF INTEREST THE US ARMY HAS FOR ACCIDENT PREVENTION.

SLIDE 1 OFF

(TRANSLATION)

THE PURPOSE OF AN AVIATION ACCIDENT PREVENTION PROGRAM

IS TO CONSERVE THE AVIATION RESOURCES OF THE COMMANDER.

THIS IS ACCOMPLISHED BY A SYSTEM OF PREVENTION,

INVESTIGATION AND REPORTING OF ACCIDENTS. THOROUGH ACCIDENT

INVESTIGATION AND REPORTING CAN DETERMINE WHAT HAPPENED,

WHAT CAUSED IT TO HAPPEN AND WHAT CAN BE DONE TO PREVENT

ITS RECURRENCE.

BEING REALISTS, WE IN THE AIRCRAFT ACCIDENT PREVENTION BUSINESS, AGREE THAT ACCIDENTS WILL PROBABLY INCREASE AS FLYING HOURS AND NUMBERS OF AIRCRAFT INCREASE. THIS IS IMPORTANT TO YOU SINCE YOU HAVE EMBARKED UPON AN EXPANSION PROGRAM FOR YOUR AVIATION FORCE STRUCTURE. IT IS IN YOUR BEST INTEREST TO KEEP THE ACCIDENT RATE AS LOW AS POSSIBLE. AS AN EXAMPLE, THE COST OF AN UH-1H IS MORE THAN NINE TIMES THE COST OF AN OH-23, AND ACCIDENTS INVOLVING THE FORMER WILL HAVE A MUCH GREATER MONETARY IMPACT ON YOUR AVIATION PROGRAM.

# (TRANSLATION)

FURTHERMORE, AN AIRCRAFT OF THE UH-1H TYPE IS NOT AS EASILY REPLACED, NOR IS THE CREW IF IT TOO IS LOST AS THE RESULT OF AN ACCIDENT. IT TAKES CONSIDERABLE TIME TO

MANUFACTURE AN UH-1H AND TO TRAIN A COMPETENT CREW. THERE

IS ALSO THE IMPACT OF THIS ACCIDENT ON THE COMMANDER. HIS

MISSION CAPABILITY IS DIMINISHED AND REMAINS DIMINISHED

UNTIL HE RECEIVES SUITABLE REPLACEMENTS; BOTH AIRCRAFT AND

CREW.

## (TRANSLATION)

WE WILL NOW DISCUSS THE US ARMY AVIATION ACCIDENT PREVENTION PROGRAM SINCE 1964.

#### (TRANSLATION)

SLIDE 2 ON IN 1964 THERE WERE 26 ACCIDENTS FOR EVERY 100,000

USE POINTER FLIGHT HOURS; IN 1978 THAT FIGURE HAD BEEN REDUCED TO 6.2

ACCIDENTS FOR EVERY 100,000 FLIGHTS HOURS. IF THE 1964

ACCIDENT RATE HAD BEEN MAINTAINED OVER THE YEARS, THE COST

IN MANPOWER AND EQUIPMENT MIGHT HAVE REACHED SUCH A HIGH

AVIATION DURING THE VIETNAMESE CONFLICT AND TO PRECLUDE

THE PLANNED INCREASE OF ARMY AVIATION'S

ROLE, IN THE COMBINED ARMS TEAM, AS WE KNOW IT TODAY.

# (TRANSLATION)

THE IMPROVEMENT IN THE AVIATION ACCIDENT RATE, FROM

1964 TO PRESENT, CAN BE DIRECTLY ATTRIBUTED, TO STRONG

COMMAND INTEREST, AT THE HIGHEST LEVEL. BECAUSE OF THIS

COMMAND INTEREST, A COURSE WAS DESIGNED IN 1964, TO MAKE

AVIATORS AND COMMANDERS, AWARE OF THE IMPORTANCE OF AVIATION

ACCIDENT PREVENTION, AND ITS POSITIVE EFFECT ON UNIT

READINESS. THIS CERTAINLY HAD A PART IN THE STEADY

REDUCTION IN THE ACCIDENT RATE, AS DID A STUDY, BY THE

SAFETY CENTER IN 1963, WHICH INDICATED THAT AVIATION

PREVENTION. THIS STUDY RECOMMENDED ADOPTION OF AN AVIATION STANDARDIZATION PROGRAM. KNOWLEDGEABLE COMMANDERS ACCEPTED STANDARDIZATION AND HELPED BRING THE ACCIDENT RATE STILL LOWER, BUT STANDARDIZATION WAS NOT YET UNIVERSAL. IN 1972 THE STANDARDIZATION PROGRAM WAS IMPLEMENTED BY THE US ARMY. BY 1973 THE ARMY AVIATION ACCIDENT RAT 'AS REDUCED STILL FURTHER TO THE LEVEL WHERE IT HAS REMAINED FOR THE PAST FIVE YEARS.

SLIDE 2 OFF

(TRANSLATION)

THE DISCUSSION UP TO THIS POINT HAS CENTERED ON:

- 1. THE NEED FOR AN EFFECTIVE AIRCRAFT ACCIDENT PREVENTION PROGRAM,
- 2. A CURSORY LOOK AT THE US ARMY STRUCTURE FOR ACCIDENT PREVENTION, AND

3. A HISTORICAL ANALYSIS OF THE ARMY'S AIRCRAFT ACCIDENT RECORD.

## (TRANSLATION)

ACCIDENTS FOR 1977. AS YOU CAN SEE, HUMAN ERROR WAS THE

MAJOR CAUSE OF ALL AIRCRAFT ACCIDENTS. HUMAN ERROR CAN

BE DEFINED AS THOSE ACTIONS THE INSTRUCTOR PILOT, PILOT,

OR COPILOT TAKE OR FAIL TO TAKE WHICH RESULTS IN AN ACCIDENT.

EXPERIENCE HAS SHOWN US THAT HUMAN ERROR WILL CONTINUE

TO BE THE LEADING CAUSE OF AIRCRAFT ACCIDENTS. IT ALSO

OFFERS US, THE SPECIALISTS IN STANDARDIZATION AND ACCIDENT

PREVENTION, THE MOST FERTILE FIELD FOR IMPROVEMENT.

## (TRANSLATION)

THAN ONE FACTOR. THIS IS EVIDENT, WHEN ONE LOOKS AT THIS

CHART, AND NOTE THAT THE CAUSES OF ALL ACCIDENTS ADD 'UP TO MORE THAN 100 PERCENT. A GOOD EXAMPLE OF MULTIPLE. FACTORS, IS THE LOSS OF AN ARMY CH-47, IN KOREA, IN 1977. THE PILOT ENCOUNTERED WEATHER CONDITIONS, THAT GREATLY RESTRICTED HIS FORWARD VISIBILITY. HIS UNITS' STANDARD OPERATIONAL PROCEDURES WERE NOT FOLLOWED: HE FLEW INTO ELECTRICAL POWER LINES, AND THE RESULTANT ACCIDENT CAUSED THE LOSS OF THREE LIVES AND AN AIRCRAFT VALUED AT MORE THAN THREE MILLION DOLLARS. ENVIRONMENT WAS A FACTOR IN THIS ACCIDENT, AS WAS HUMAN ERROR. WE BELIEVE THAT PROPER TRAINING, AND STANDARDIZATION OF AIRCREWS, WILL MINIMIZE PILOT ERROR ACCIDENTS. TRAINING AND STANDARDIZATION, WILL ASSIST THE PILOT, IN TAKING THE PROPER COURSE OF ACTION, WHEN CONFRONTED WITH ADVERSE WEATHER CONDITIONS, OR OTHER

PROBLEMS, AND HOPEFULLY ENABLE HIM TO WITHSTAND THE PRESSURES INDUCED BY ANY EMERGENCY SITUATION.

SLIDE 3 OFF

#### (TRANSLATION)

THE UNITED STATES ARMY SAFETY CENTER, BEING AWARE OF
THE MAJOR ROLE THAT PILOT ERROR PLAYS IN THE RATE OF AIRCRAFT
ACCIDENTS IS CONSTANTLY MAKING RECOMMENDATIONS TO MAKE
EQUIPMENT, AIRCRAFT, TRAINING AND STANDARDIZATION MORE
RESISTANT TO ERRORS. MANY OF THESE RECOMMENDATIONS, HAVE
BEEM INCORPORATED, INTO THE AVIATION ACCIDENT PREVENTION
PROGRAM, AND HAVE BEEN INSTRUMENTAL, IN MAINTAINING THE AIRCRAFT
ACCIDENT RATE, AT ITS RELATIVELY LOW LEVEL.

IT IS OUR HOPE, THAT THE MATERIAL PRESENTED THUS FAR, HAS CONVINCED YOU OF THE BENEFITS TO BE DERIVED FROM AN EFFECTIVE ACCIDENT PREVENTION PROGRAM. AS WE STATED PREVIOUSLY, WITH

SUCH A PROGRAM, THE COMMANDER IS ABLE TO MAINTAIN A HIGH
STATE OF COMBAT READINESS, WHILE UTILIZING HIS AVIATION
RESOURCES WITH MAXIMUM EFFECTIVENESS. WITH STRONG COMMAND
EMPHASIS, AND A GOOD SAFETY ATTITUDE, THE COMMANDER CAN LAY
THE FOUNDATION FOR A VIABLE ACCIDENT PREVENTION PROGRAM.

# (TRANSLATION)

WITH THIS BACKGROUND FIRMLY ESTABLISHED, HOW CAN WE

ASSIST YOU AND HOW CAN YOU ESTABLISH AN ACCIDENT PREVENTION

PROGRAM THAT IS SUITED TO YOUR NEEDS?

# (TRANSLATION)

IN THIS REGARD, THESE ARE SEVERAL QUESTIONS THAT SHOULD BE ADDRESSED:

SLIDE 4 ON 1. WHAT DO YOU WANT AN ACCIDENT PREVENTION PROGRAM TO ACCOMPLISH?

- 2. HOW AND WHERE SHOULD IT BE INTEGRATED INTO YOUR ORGANIZATIONAL STRUCTURE?
- 3. SHOULD SPECIALIZED ACCIDENT PREVENTION PERSONNEL BE TRAINED AND DESIGNATED?
- 4. WILL THE PROGRAM HAVE THE TOTAL SUPPORT OF THE COMMANDER?
- 5. WILL THE PROGRAM BE MISSION EFFECTIVE?

  SLIDE 4 OFF (TRANSLATION)

WE WILL NOW SHOW HOW AN ACCIDENT PREVENTION PROGRAM

FUNCTIONS, ITS SALIENT POINTS, AND THE DUTIES OF THE

PRINCIPAL STAFF MEMBERS INVOLVED. HOPEFULLY, IT WILL

BECOME APPARENT THAT THE COMMANDER AND HIS STAFF MUST

PLAN, AND ORGANIZE, A WELL DEVELOPED SAFETY AND STANDARDIZATION

PROGRAM, IF HE IS TO BE SUCCESSFUL IN THIS ENDEAVOR.

THESE ARE ELEMENTS OF A TYPICAL ACCIDENT PREVENTION PROGRAM.

SLIDE 5 ON COMMAND: THE OVERALL RESPONSIBILITY FOR AN EFFECTIVE

ACCIDENT PREVENTION PROGRAM RESTS WITH THE COMMANDER. AS

STATED PREVIOUSLY, HE SETS THE TONE AND EMPHASIS FOR THE

SLIDE 5 OFF

PROGRAM.

(TRANSLATION)

SAFETY OFFICER OF EACH ORGANIZATION IS RESPONSIBLE FOR

DEVELOPING, COORDINATING, AND SUPERVISING THE AVIATION

ACCIDENT PREVENTION PROGRAM. TO DO THIS EFFECTIVELY THE

STAFF OR THE SAFETY OFFICER MUST RECOGNIZE THE ORGANIZATIONAL

MISSION AND THE IMPACT THAT THE SAFETY PROGRAM WILL HAVE ON

THAT MISSION AND THE STAFF MEMBERS RESPONSIBLE FOR IT.

ACCIDENT PREVENTION PLAN: THE AVIATION ACCIDENT

PREVENTION PLAN IS A PUBLISHED DIRECTIVE THAT FORMALLY

ESTABLISHES THE PROGRAM. AN ESSENTIAL ELEMENT OF THIS PLAN

SHOULD BE THE COMMANDER'S PHILOSOPHY ON SAFETY - AGAIN,

THAT ALL IMPORTANT TONE AND EMPHASIS ON ACCIDENT PREVENTION.

SLIDE 6 OFF

(TRANSLATION)

SLIDE 7 ON EDUCATION: ACCIDENT PREVENTION EDUCATION SESSIONS

ARE AN INTEGRAL PART OF EACH COMMANDER'S SAFETY PROGRAM.

THIS IS ACCOMPLISHED BY CONDUCTING PERIODIC CLASSES ON

STANDARDIZATION, EMERGENCY PROCEDURES, SAFETY AWARENESS,

ETC.

SLIDE 7 OFF

(TRANSLATION)

SLIDE 8 ON INVESTIGATION AND ANALYSIS: ACCURATE AND TIMELY

MISHAP INVESTIGATION AND ANALYSIS IS ESSENTIAL TO EFFECTIVE

ACCIDENT PREVENTION. THESE INVESTIGATIONS AND ANALYSES

GENERATE A HIGH DEGREE OF INTEREST WITH UNIT AVIATORS,

AND RECOMMENDATIONS FOR PREVENTION ARE ACCEPTED IN A

POSITIVE MANNER.

SLIDE 8 OFF

(TRANSLATION)

SLIDE 9 ON RESEARCH, DEVELOPMENT, TEST AND EVALUATION: INHERENT IN THE ARMY AVIATION SAFETY PROGRAM IS THE TASK OF IDENTIFYING AND ELIMINATING FACTORS AND CONDITIONS WHICH ARE KNOWN, OR SUSPECTED, TO HAVE CONTRIBUTED TO AVIATION ACCIDENTS. ALTHOUGH THIS IS AN ESSENTIAL ELEMENT OF EFFECTIVE ACCIDENT PREVENTION, IT IS GENERALLY THE PROVINCE OF THE SAFETY ORGANIZATION AT THE HIGHEST LEVEL. LOCAL ORGANIZATIONS AND COMMANDS HAVE HOWEVER, MADE CONTRIBUTIONS IN THIS AREA THROUGH COORDINATION WITHIN THE CHAIN OF COMMAND.

SLIDE 9 OFF

SLIDE 10 ON AWARDS: ALL INDIVIDUALS ENJOY THE RECOGNITION THAT

GOES WITH A "JOB WELL DONE." THE POSSIBILITY OF EARNING

ONE OF THE UNIT OR INDIVIDUAL AVIATION ACCIDENT AWARDS CAN

BE A STRONG INCENTIVE TOWARD UNIT AND INDIVIDUAL ACHIEVEMENT.

THE AVIATOR, CREWMAN, MECHANIC AND INDIVIDUAL SOLDIER IS

A VERY IMPORTANT ELEMENT OF ACCIDENT PREVENTION. IF HE IS

WELL TRAINED, MOTIVATED AND DEMONSTRATES A POSITIVE ATTITUDE

TOWARD ACCIDENT PREVENTION THE TOTAL PROGRAM WILL BE

STRENGTHENED.

SLIDE 10 OFF

(TRANSLATION)

WE WILL NOW DISCUSS THE AVIATION SAFETY OFFICER AND HIS DUTIES AND RESPONSIBILITIES.

THE AVIATION SAFETY OFFICER PLAYS AN IMPORTANT ROLE

IN ACCIDENT PREVENTION. HE ASSISTS, ADVISES, AND REPRESENTS

THE COMMANDER OR STAFF AVIATION OFFICER IN ALL MATTERS
PERTAINING TO AVIATION ACCIDENT PREVENTION. HE SHOULD BE
A GRADUATE OF AN APPROVED COURSE OF INSTRUCTION IN
AVIATION SAFETY.

#### (TRANSLATION)

SLIDE 11 ON SOME OF HIS DUTIES ARE TO:

MAINTAIN CLOSE LIAISON WITH THE COMMANDER OR

AVIATION STAFF OFFICER ON ALL MATTERS PERTAINING TO THE

AIRCRAFT ACCIDENT PREVENTION EFFORT.

MAINTAIN A LIAISON WITH ALL KEY STAFF AND SUPERVISORY

PERSONNEL SO AS TO ALERT THE COMMANDER OF PROBLEM AREAS.

MAINTAIN A LIAISON WITH ALL UNIT AVIATORS SO THAT

INDIVIDUAL PROBLEMS MAY BE RESOLVED, THEIR STATE OF

PROFICIENCY OBSERVED, AND THEIR ATTITUDE TOWARD SAFETY
MAINTAINED AT A HIGH LEVEL.

SLIDE 12 ON OBSERVE FLIGHT AND GROUND OPERATIONS TO DETECT AND CORRECT UNSAFE PRACTICES.

INSPECT PHYSICAL CONDITION OF AIRFIELDS FOR HAZARDS,
RECOMMEND IMPROVEMENTS AND CLEARLY IDENTIFY ALL KNOWN HAZARDS.

SLIDE 12 OFF

SLIDE 13 ON ESTABLISH, MAINTAIN, AND REHEARSE A CURRENT

PRE-ACCIDENT PLAN. THIS IS A UNIT'S PLAN OF ACTION IN THE

EVENT OF AN AIRCRAFT ACCIDENT.

# (TRANSLATION)

THERE ARE OF COURSE OTHER DUTIES THAT THE AVIATION SAFETY OFFICER MUST PERFORM, BUT THIS LIST SHOULD GIVE YOU AN IDEA OF THE TYPE OF WORK HE PERFORMS.

SLIDE 13 OFF

IN SUMMARY: AN EFFECTIVE AIRCRAFT ACCIDENT PREVENTION PROGRAM IS DEPENDENT ON THE COMMANDER. HE IS AWARE OF HIS MISSION, THE RESOURCES AVAILABLE TO HIM, AND THE CONSTRAINTS THUS IMPOSED UPON ANY ACCIDENT PREVENTION PROGRAM THAT HE CHOOSES TO EMPLOY. ONCE THE PROGRAM IS FORMALIZED HE SETS THE TONE OR EMPHASIS FOR THE PROGRAM. FUNCTIONING AS ADVISORS TO THE COMMANDER ARE THE AVIATION SAFETY OFFICER FOR ALL AREAS OF ACCIDENT PREVENTION; WHILE HIS OTHER STAFF PERSONNEL ASSIST AND ADVISE WITHIN THEIR OWN AREAS OF RESPONSIBILITY. THE COMMANDER INSTITUTES POLICY AND ENHANCES SAFETY BY MEANS OF HIS UNIT STANDARDIZED OPERATIONAL PROCEDURES AND HIS STANDARDIZATION AND TRAINING PROGRAMS. HE AND HIS STAFF CLOSELY MONITOR THESE PROGRAMS. THE AVIATION SAFETY OFFICER CONDUCTS AN ON-GOING EDUCATION PROGRAM AIMED

AT ACCIDENT PREVENTION AND SAFETY AWARENESS. HE ALSO MAINTAINS AN AWARDS PROGRAM TO PROPERLY RECOGNIZE POSITIVE ACCOMPLISHMENTS IN ACCIDENT PREVENTION. THE COMMANDER, HIS AVIATION SAFETY OFFICER AND OTHER STAFF PERSONNEL SHOULD MAKE FREQUENT ASSISTANCE VISITS TO DEPARTMENTS WITHIN THE UNIT. THIS ENABLES THEM TO INSURE PROGRAM COMPLIANCE WHILE AT THE SAME TIME UNIT PERSONNEL CAN RECOGNIZE THE GENUINE INTEREST AND INVOLVEMENT OF THE COMMANDER AND STAFF IN ACCIDENT PREVENTION. FINALLY, EFFECTIVE ACCIDENT PREVENTION EQUATES TO CONSERVATION OF RESOURCES, AND GREATLY ASSISTS THE COMMANDER IN THE PURSUIT OF HIS MISSION. GENTLEMEN, ARE THERE ANY QUESTIONS ON ACCIDENT PREVENTION?

# ARMY AVIATION STANDARDIZATION SCRIPT

SLIDE 1 ON

THIS PRESENTATION OUTLINES THE SERVICES PROVIDED

BY A CENTRALIZED STANDARDIZATION PROGRAM, THE STRUCTURE,

AND FUNCTIONS OF AVIATION STANDARDIZATION BOARDS AND

THE INSTRUCTOR PILOT CORPS. THE BRIEFING IS BASED

ON THE US ARMY AVIATION STANDARDIZATION PROGRAM WHICH

COULD EASILY BE ADOPTED BY THE ROKA AVIATION BECAUSE

OF SIMILARITIES IN OUR MILITARY ORGANIZATIONS.

# (TRANSLATION)

THE GOAL OF AN AVIATION STANDARDIZATION PROGRAM
IS TO IMPROVE UNIT READINESS, AVIATION SAFETY, AND
PROFESSIONALISM BY USING STANDARD PROCEDURES AND
TECHNIQUES AT ALL LEVELS OF COMMAND.

THE US ARMY AVIATION STANDARDIZATION PROGRAM

CAME ABOUT AS THE RESULT OF A STUDY CONDUCTED IN

1963 BY THE US ARMY BOARD FOR AVIATION ACCIDENT

RESEARCH NOW THE US ARMY SAFETY CENTER.

# (TRANSLATION)

SLIDE 2 ON THIS STUDY SHOWED THAT OUT OF 1140 MISHAPS

(ACCIDENTS, INCIDENTS, AND FORCED LANDINGS) IN

1962, INSTRUCTOR

# (USE POINTER)

PILOTS WERE INVOLVED IN 360 OF THEM. MATERIAL

FAILURE WAS RESPONSIBLE FOR 28 MISHAPS IN WHICH THE

INSTRUCTOR PILOT COULD TAKE NO CORRECTIVE ACTION.

(PAUSE) OF THE 360 MISHAPS, 127 RESULTED IN THE

INSTRUCTOR PILOT SAVING THE AIRCRAFT. (PAUSE)

## (TRANSLATION)

OF THE DATA ON THIS CHART, MOST SIGNIFICANT, ARE THE

149 EMERGENCY SITUATIONS IN WHICH INSTRUCTOR PILOTS

FAILED TO TAKE PROPER CORRECTIVE ACTION (PAUSE) AND 56

SITUATIONS IN WHICH INSTRUCTOR PILOTS INDUCED THE

EMERGENCY.

## (TRANSLATION)

THE REVIEW OF MISHAP EXPERIENCE CLEARLY ESTABLISHED

THE NEED FOR A STANDARDIZATION PROGRAM. THEREFORE,

THE STUDY RECOMMENDED IMPLEMENTATION OF AN ARMY-WIDE

STANDARDIZATION PROGRAM TO IMPROVE THE QUALITY OF THE

INSTRUCTOR PILOT FORCE AND STANDARDIZATION IN

AVIATION TRAINING.

SLIDE 2 OFF

SOME STEPS WERE TAKEN TO INTRODUCE STANDARDIZATION IN ARMY AVIATION. HOWEVER, THE RAPID EXPANSION OF ARMY AVIATION DURING THE VIETNAM CONFLICT, DELAYED IMPLE-MENTATION OF A DETAILED PROGRAM. LATER, AS THE TEMPO OF THE CONFLICT SUBSIDED, WE RECOGNIZED THAT THE NEW GENERATION OF COMBAT BRED AVIATORS HAD LITTLE OR NO EXPERIENCE IN A STANDARDIZED TRAINING OR QUALITY CONTROL PROGRAM SINCE GRADUATION FROM FLIGHT SCHOOL. INSTRUCTOR PILOTS WERE DESIGNATED LOCALLY AND TRAINING WAS BASED ON THE INTEREST OF THE COMMAND. WITHOUT A CENTRALIZED PROGRAM THERE WAS NO ASSURANCE OF ADEQUATE TRAINING OR A FEEDBACK SYSTEM TO KEEP COMMANDERS INFORMED ON THE STATUS OF AVIATION TRAINING.

DEPARTMENT OF THE ARMY RECOGNIZED THAT STANDARDIZED

MANAGEMENT PROCEDURES, HAD TO BE ESTABLISHED, TO

ENHANCE THE COMBAT EFFECTIVENESS OF AVIATION UNITS, AND

AVIATION SAFETY. THE AIR FORCE, AND NAVY, HAD ALREADY

RECOGNIZED AND ESTABLISHED STANDARDIZATION PROGRAMS,

WHICH INCLUDED AVIATOR CURRENCY REQUIREMENTS,

STANDARDIZED TRAINING, AND CENTRALIZED CONTROL.

ANALYSIS REVEALED THAT SUCH PROGRAMS PROMOTED SAFETY

IN TRAINING, AND PROFESSIONALISM IN MISSION EXECUTION.

# (TRANSLATION)

SLIDE 3 ON

IN 1972, DEPARTMENT OF THE ARMY DIRECTED A

FORMAL ARMY AVIATION STANDARDIZATION PROGRAM BE

ESTABLISHED. CENTRALIZED CONTROL, AND COORDINATION, OF

THE PROGRAM, IS ACCOMPLISHED THROUGH A

HIERARCHY OF AVIATION STANDARDIZATION BOARDS.

THIS SLIDE SHOWS THE STRUCTURE OF THE STANDARDIZATION

PROGRAM IN EIGHTH UNITED STATES ARMY AND THEIR

RELATIONSHIP TO DEPARTMENT OF THE ARMY. (FAUSE)

#### (TRANSLATION)

BOARD IS THE GOVERNING ORGANIZATION. IT MEETS ANNUALLY.

IT IS COMPOSED OF PRINCIPLE AND SPECIAL DEPARTMENT OF

THE ARMY OFFICES AND REPRESENTATIVES FROM EVERY MAJOR

ARMY COMMAND.

IT IS NOT IMPORTANT TO UNDERSTAND EACH TITLE BUT

IT REPRESENTS THE HIGHEST EXECUTIVE LEVEL OF THE

STANDARDIZATION PROGRAM. THE BOARD'S MISSION IS TO

ESTABLISH GENERAL POLICY FOR IMPLEMENTING THE ARMY AVIATION STANDARDIZATION PROGRAM.

## (TRANSLATION)

SLIDE 5 ON

(HAVE POINTER SHOWING USAAVNC BLOCK BEFORE TURNING ON.)

A CENTRALIZED ASSISTANCE AND EVALUATION FUNCTION FOR THE DEPARTMENT OF THE ARMY AVIATION STANDARDIZATION PROGRAM IS PROVIDED BY THE US ARMY AVIATION CENTER AT FORT RUCKER, ALABAMA THROUGH OFFICIAL TASKING BY HEADQUARTERS DEPARTMENT OF THE ARMY. TRAINING AND STANDARDIZATION LITERATURE ARE PREPARED AT FT RUCKER. SPECIFICALLY, THE DIRECTORATE OF EVALUATION AND STANDARDIZATION IS AUTHOR FOR ARMY REGULATION 95-1, ARMY AVIATION: GENERAL PROVISIONS AND FLIGHT REGULATIONS. THE DIRECTORATE ALSO HAS

A STANDARDIZATION INSTRUCTOR PILOT CADRE THAT

CONDUCTS FLIGHT EVALUATIONS BOTH IN THE STUDENT

AVIATOR TRAINING PROGRAMS AT FT RUCKER AND IN

AVIATION UNITS THROUGHOUT THE ARMY.

SLIDE 5 OFF LEAVE IN PLACE (TRANSLATION)

THE INFORMATION PROVIDES A FEEDBACK SYSTEM TO

IMPROVE THE QUALITY OF AVIATION TRAINING. IT PROVIDES

COMMANDERS A RANDOM CHECK ON THE STATUS OF AVIATOR

TRAINING IN THE FIELD AND ASSISTS IN PROVIDING

INFORMATION TO IMPROVE TRAINING AND STANDARDIZATION

LITERATURE. IT PROVIDES A QUALITY CONTROL CHECK

ON UNIT INSTRUCTOR CADRE AND ENSURES TRAINING IS

ACCOMPLISHED ACCORDING TO PUBLISHED DIRECTIVES.

THROUGH THE ARMY AVIATION STANDARDIZATION PROGRAM, THE
UNIT COMMANDER RECEIVES AN OBJECTIVE EVALUATION OF
HIS AVIATION STANDARDIZATION PROGRAM AND DEPARTMENT
OF THE ARMY IS KEPT INFORMED OF THE STATUS OF AVIATION
STANDARDIZATION ACTIVITIES, POLICIES AND PROCEDURES
ARMY-WIDE.

SLIDE 5 ON

## (TRANSLATION)

USE POINTER

MAJOR AND SUBORDINATE COMMANDS AND INSTALLATIONS

ALSO HAVE AVIATION STANDARDIZATION BOARDS. WHEN

UNITS ARE TOO SMALL OR LOCATED IN REMOTE AREAS TO

HAVE AN EFFECTIVE BOARD, THE MAJOR COMMAND WILL;

REQUIRE THEM TO JOIN THE CLOSEST ACTIVE BOARD. AS

SHOWN, EIGHTH UNITED STATES ARMY IS A MAJOR ARMY

COMMAND AND HAS, ALL AVIATION UNITS BELONGING TO

PURPOSE OF THE BOARDS IS NOT TO OVERRULE THE

PERROGATIVE OF THE COMMANDER. INSTEAD, IT IS THE

COMMANDER'S TOOL TO RESOLVING AVIATION MATTERS AND

TO KEEP HIM CONTINUALLY INFORMED OF THE STATUS OF

TRAINING, SAFETY AND READINESS.

SLIDE 5 OFF

## (TRANSLATION)

STANDARDIZATION BOARD FUNCTIONS. THE BOARD

PROVIDES ASSISTANCE AND EVALUATION OF SUBORDINATE

AVIATION UNITS FOR THE COMMANDER. THIS INSURES

AVIATORS ARE MAINTAINING PROFICIENCY, IN ACCORDANÇE

WITH PUBLISHED TRAINING PROGRAMS. IT ATTENDS TO THE

NEED OF THE INSTALLATION AVIATION UNITS, AND KEEPS

THEM IN PROPER PERSPECTIVE, WITH THE NEEDS OF THE

ENTIRE INSTALLATION. THE INSTALLATION BOARD KEEPS
THE NEXT HIGHER BOARD INFORMED, PROVIDES INFORMATION
TO ALL AVIATORS, AND IS A SOURCE OF INFORMATION TO
THE COMMANDER. AVIATION STANDARDIZATION MATTERS
WHICH CANNOT BE RESOLVED AT THE INSTALLATION LEVEL
ARE FORWARDED TO THE NEXT HIGHER COMMAND BOARD FOR
RESOLUTION. THIS SYSTEM OPERATES UP AND DOWN TO
INSURE A THOROUGH FLOW OF INFORMATION, POLICIES,
AND SOLUTIONS TO AVIATION MATTERS.

# (TRANSLATION)

SLIDE 6 ON

MEMBERSHIP COMPOSITION OF AN INSTALLATION ;
STANDARDIZATION BOARD IS AS SHOWN. PLEASE TAKE A
MOMENT TO READ THE SLIDE.

(TRANSLATION)

(PAUSE)

Ų.

USE POINTER NORMALLY, THE INSTALLATION AVIATION OFFICER IS: DESIGNATED TO BE THE BOARD PRESIDENT BY THE . . INSTALLATION COMMANDER. THE SECRETARY IS ALSO DESIGNATED BY THE COMMANDER. THE AVIATION STANDARDIZATION OFFICER IS A FULL TIME MEMBER WHO IS AVAILABLE TO ENSURE FUNCTIONING OF THE STANDARDIZATION BOARD ON CONTINUOUS BASIS WHEN IT IS NOT IN FORMAL SESSION. YOU WILL NOTE THE AVIATION SAFETY OFFICER AND FLIGHT SURGEON ARE MEMBERS. THE STANDARDIZATION INSTRUCTOR PILOT IN EACH TYPE AIRCRAFT, AN INSTRUMENT FLIGHT EXAMINER IN EACH CATEGORY, AND MAINTENANCE OFFICER COMPLETE THE BOARD MEMBERSHIP. THE INSTALLATION STANDARDIZATION BOARD SHOULD INCLUDE REPRESENTATION OF ALL AVIATION INTERESTS ON AN

INSTALLATION. IT SHOULD BE LARGE ENOUGH TO FUNCTION EFFICIENTLY, BUT SHOULD NOT BE TOO LARGE TO BE UNMANAGEABLE.

## (TRANSLATION)

SLIDE 7 ON

THE STANDARDIZATION PROGRAM DOES NOT STOP AT
THE INSTALLATION LEVEL. IT IS ALSO ACTIVE AT THE
UNIT LEVEL THROUGH THE EFFORTS OF THE COMMANDER AND
HIS ASSIGNED STAFF. THE UNIT COMMANDER, IMPLEMENTS
UNIT STANDARDIZATION TRAINING POLICIES AND PRIORITIES
TO INCLUDE THOSE ESTABLISHED BY HIGHER AUTHORITY.
HE IS ASSISTED BY HIS OPERATIONS OFFICER, INSTRUCTOR
PILOTS, INSTRUMENT FLIGHT EXAMINERS, MAINTENANCE
OFFICER, AND THE UNIT SAFETY OFFICER. TO EMPHASIZE

THEIR IMPORTANCE, THESE POSITIONS, ARE DESIGNATED
IN UNIT TABLES OF ORGANIZATION AND FOUIPMENT.

## (TRANSLATION)

SLIDE 8 ON

THE PRIMARY WORKERS IN A STANDARDIZATION PROGRAM

ARE THE INSTRUCTOR PILOTS AND INSTRUMENT FLIGHT

EXAMINERS. THEY ARE GRADUATES OF THE US ARMY

AVIATION CENTER COURSES OF INSTRUCTION.

INSTRUCTOR PILOT OR INSTRUMENT FLIGHT EXAMINER DUTIES.

WHEN THE AVIATOR COMPLETES THE INSTRUCTOR PILOT OR

INSTRUMENT FLIGHT EXAMINER COURSE AND RETURNS TO HIS

UNIT, THE COMMANDER IS RESPONSIBLE FOR NOMINATING

THOSE AVIATORS, FOR THESE POSITIONS, TO THE LOCAL

STANDARDIZATION BOARD. THE INSTRUCTOR PILOT OR

INSTRUMENT FLIGHT EXAMINER MUST SATISFACTORILY

COMPLETE, A FLIGHT AND ORAL EVALUATION, GIVEN BY

A STANDARDIZATION INSTRUCTOR PILOT OR INSTRUMENT

FLIGHT EXAMINER, DESIGNATED BY THE LOCAL STANDARDIZATION

BOARD, BEFORE ASSUMING INSTRUCTOR DUTIES IN THE UNIT.

THE AVIATOR'S FLYING EXPERIENCE AND HIS DESIRE

TO INSTRUCT ARE PRIME CONSIDERATIONS. SELECTION

PROCEDURES INCLUDE AN EVALUATION OF THE AVIATOR'S

AIRCRAFT HANDLING CAPABILITIES, APPRECIATION AND

UNDERSTANDING OF TACTICAL AVIATION CONCEPTS, PERSONALITY,

AND MILITARY RECORD.

## (TRANSLATION)

SLIDE 9 ON

DUTIES AND REQUIREMENTS OF THE STANDARDIZATION
INSTRUCTOR PILOTS, INSTRUCTOR PILOTS, AND INSTRUMENT

FLIGHT EXAMINERS, WILL NOW BE DISCUSSED.

THE STANDARDIZATION INSTRUCTOR PILOT IS THE

MOST SKILLED OF THE INSTRUCTOR PILOTS. HIS PROVEN

PERFORMANCE AS AN INSTRUCTOR, JUDGMENT, MATURITY

AND WILLINGNESS TO ASSUME RESPONSIBILITY ARE

PRINCIPLE CONSIDERATIONS FOR SELECTION. A MINIMUM

OF 200 HOURS INSTRUCTOR PILOT TIME IS DESIRABLE.

A STANDARDIZATION INSTRUCTOR PILOT CANDIDATE

MUST ALSO PASS AN ANNUAL FLIGHT EVALUATION GIVEN BY

A STANDARDIZATION INSTRUCTOR PILOT DESIGNATED BY THE

LOCAL STANDARDIZATION BOARD. HE SERVES AS A MEMBER

OF THE STANDARDIZATION BOARD, AND AS ADVISOR TO

THE COMMANDER. THE STANDARDIZATION INSTRUCTOR PILOT,

HAS TECHNICAL SUPERVISION OF HIS UNIT'S AVIATION STANDARDIZATION PROGRAM.

## (TRANSLATION)

UNDER THE SUPERVISION OF THE BOARD, HE CONDUCTS

FLIGHT EVALUATIONS OF THE AIRCREWS, AVIATORS,

INSTRUCTOR PILOTS, AND STANDARDIZATION INSTRUCTOR

PILOTS. HE VALIDATES STANDARDIZATION AND PROFICIENCY

IN AIRCRAFT OPERATIONS AND EMPLOYMENT AS REQUIRED

AND EVALUATES THE AVIATION STANDARDIZATION PROGRAM.

HE PERFORMS INSTRUCTOR PILOT DUTIES AS DIRECTED.

HE PARTICIPATES IN THE COMMAND AVIATION ACCIDENT
PREVENTION PROGRAM AND EMPHASIZES THOSE PRINCIPLES

DURING FLIGHT EVALUATIONS AND INSTRUCTION PERIODS.

STANDARDIZATION INSTRUCTOR PILOT STATUS IS TEMPORARY

AND TERMINATES WHEN THE AVIATOR CHANGES DUTY
STATION OR THE NEED NO LONGER EXISTS.

### (TRANSLATION)

SLIDE 10 ON

THE INSTRUCTOR PILOT CONDUCTS TRAINING AND MAKES EVALUATIONS IN DESIGNATED AIRCRAFT AND PROMOTES SAFETY CONSCIOUSNESS AMONG AVIATORS. TRAINING AND EVALUATION INCLUDES AIRCRAFT OPERATIONS, QUALIFICATIONS, UNIT EMPLOYMENT, VISUAL AND INSTRUMENT FLIGHTS, AVIATOR-RELATED MAINTENANCE, AND CREW PERFORMANCE. THE INSTRUCTOR PILOT IS ALSO EVALUATED ANNUALLY BY A STANDARDIZATION INSTRUCTOR PILOT WHO INSURES STANDARDIZATION IS MAINTAINED AMONG ALL INSTRUCTOR PILOT'S, PROPER INSTRUCTIONAL PROCEDURES ARE USED, AND THE REQUIRED KNOWLEDGE OF RELATED SUBJECTS IS

MAINTAINED.

## (TRANSLATION)

CHANGE SLIDE FLIP

THE INSTRUMENT FLIGHT EXAMINER HAS HIGHLY RESPONSIBLE DUTIES WHICH ARE TO CONDUCT ANNUAL INSTRUMENT FLIGHT EXAMINATIONS, INSTRUMENT FLIGHT TRAINING AND OTHER INSTRUMENT FLIGHT EXAMINER EVALUATIONS AS DIRECTED BY HIS COMMANDER AND THE AVIATION STANDARDIZATION BOARD. HE ALSO SERVES AS A MEMBER OF THE STANDARDIZATION BOARD. IF POSSIBLE, HE SHOULD BE AN INSTRUCTOR PILOT IN THE AIRCRAFT IN WHICH HE IS PERFORMING INSTRUMENT FLIGHT EXAMINER DUTIES.

(TRANSLATION)

INSTRUMENT FLIGHT EXAMINERS ARE EVALUATED ANNUALLY
BY ANOTHER INSTRUMENT FLIGHT EXAMINER ON THEIR ABILITY
TO CONDUCT AND INSTRUCT INSTRUMENT FLIGHT PROCEDURES.
HE ALSO RECEIVES AN EVALUATION ON HIS PILOT DUTIES.

## ( TRANSLATION)

SLIDE 11 ON

AS PREVIOUSLY MENTIONED, INSTRUCTOR AND

STANDARDIZATION INSTRUCTOR PILOTS AND INSTRUMENT

FLIGHT EXAMINERS MUST BE EVALUATED INITIALLY ON

ASSUMING DUTIES AND ANNUALLY THEREAFTER. IN ADDITION,

ALL AVIATORS ALSO ARE REQUIRED TO UNDERGO AN ANNUAL

AVIATOR PROFICIENCY AND READINESS TEST. THIS TEST,

CONSISTS OF A STANDARDIZATION FLIGHT EVALUATION,

AN INSTRUMENT FLIGHT EXAMINATION, A WRITTEN EXAMINATION,

AND A MEDICAL EXAMINATION. THIS INSURES THE AVIATOR,

AND INSTRUCTOR PILOT FORCE, MEET THE STANDARDS REQUIRED, IN THE APPROPRIATE ARMY TRAINING LITERATURE AND DIRECTIVES.

### (TRANSLATION)

SLIDE 12 ON THROUGHOUT THIS BRIEFING, WE HAVE DISCUSSED A SYSTEM OF CHECKS AND BALANCES IN THE ARMY AVIATION STANDARDIZATION PROGRAM. THE STANDARDIZATION INSTRUCTOR PILOT, EVALUATES THE INSTRUCTOR PILOT AND INSTRUMENT FLIGHT EXAMINER, AND EITHER MAY EVALUATE AN AVIATOR. ONE INSTRUMENT FLIGHT EXAMINER MUST BE EVALUATED BY ANOTHER. ALSO, MEMBERS OF STANDARDIZATION BOARDS. CONDUCT EVALUATIONS AND ASSISTANCE VISITS OF SUBORDINATE AVIATION UNITS TO INCLUDE UNANNOUNCED FLIGHT CHECKS OF INDIVIDUAL AVIATORS, TRAINING PROGRAMS. ADMINISTRATIVE PROCEDURES, AND FLIGHT RECORDS.

### (TRANSLATION)

IN SUMMARY, THE NEED FOR A STANDARDIZATION PROGRAM
HAS ESTABLISHED A MEANS FOR ASSURING STANDARDIZED

AVIATOR PROFICIENCY, TRAINING, PROCEDURES AND

AVIATION ADMINISTRATION IS MAINTAINED AT ALL LEVELS

OF COMMAND. IT PROVIDES AN EVALUATIVE FUNCTION TO

ASSIST IN DETERMINING ADEQUACY OF AVIATOR TRAINING

CONDUCTED BY THE FIELD UNITS AND THE US ARMY

AVIATION CENTER.

IT ACTS AS A CONTROL FOR THE INSTRUCTOR PILOT

FORCE TO MAINTAIN THEIR PROFICIENCY AND SPECIAL SKILLS.

THE SERVICES PROVIDED BY AN ACTIVE STANDARDIZATION PROGRAM ARE ESSENTIAL TO THE MAINTENANCE OF EFFECTIVE TRAINING AND ACCIDENT PREVENTION PROGRAMS.

## (TRANSLATION)

SLIDE 12 OFF

THE IMPLEMENTATION OF AN EFFECTIVE AVIATION

STANDARDIZATION PROGRAM IN ROKA SHOULD BE CONSIDERED.

THE US ARMY AVIATION STANDARDIZATION PROGRAM COULD

SERVE AS AN EXAMPLE FOR DEVELOPING A ROKA AVIATION

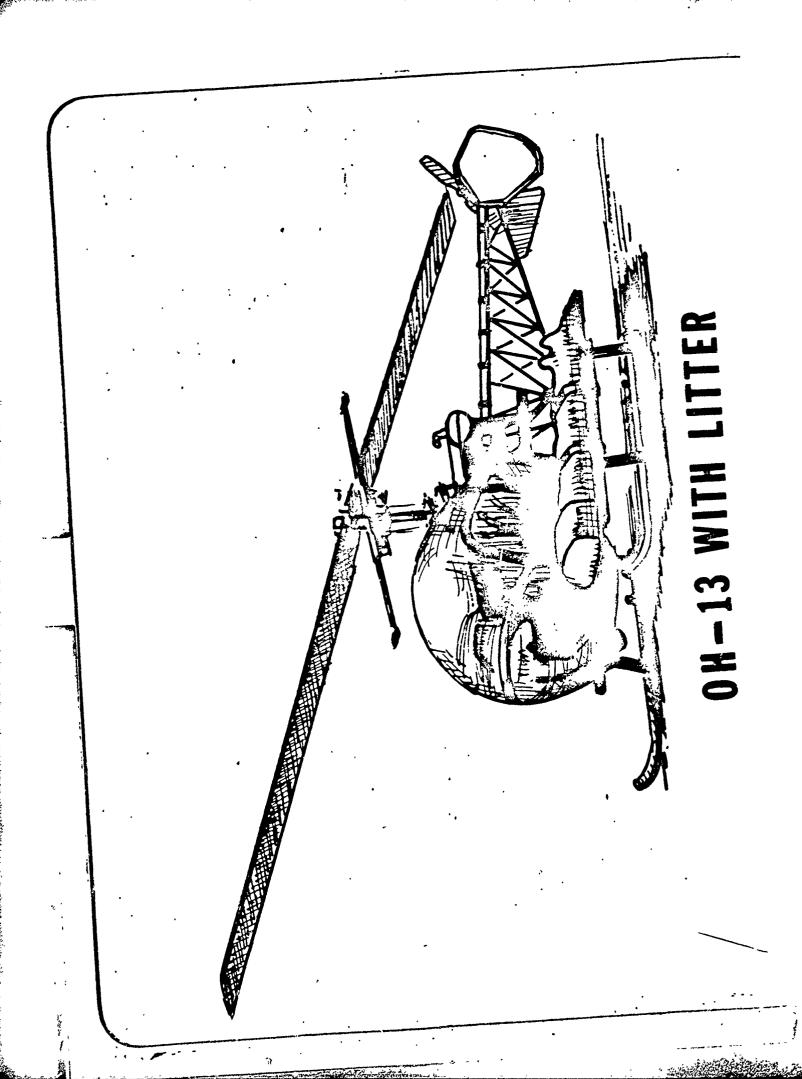
STANDARDIZATION PROGRAM. THE INTER-RELATIONSHIP

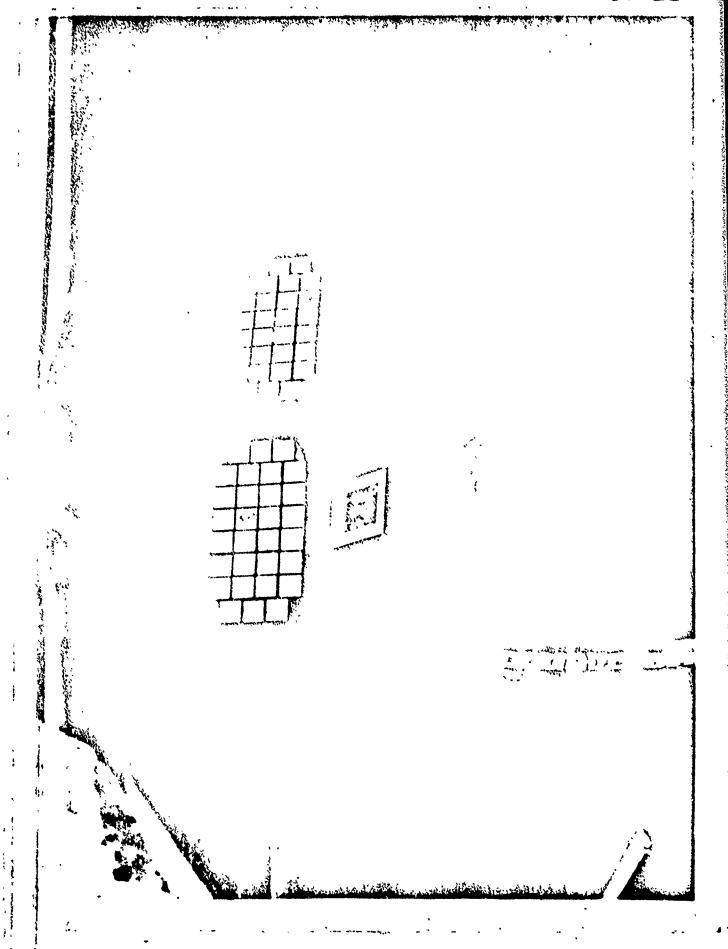
OF TRAINING, STANDARDIZATION, AND SAFETY IN ROKA

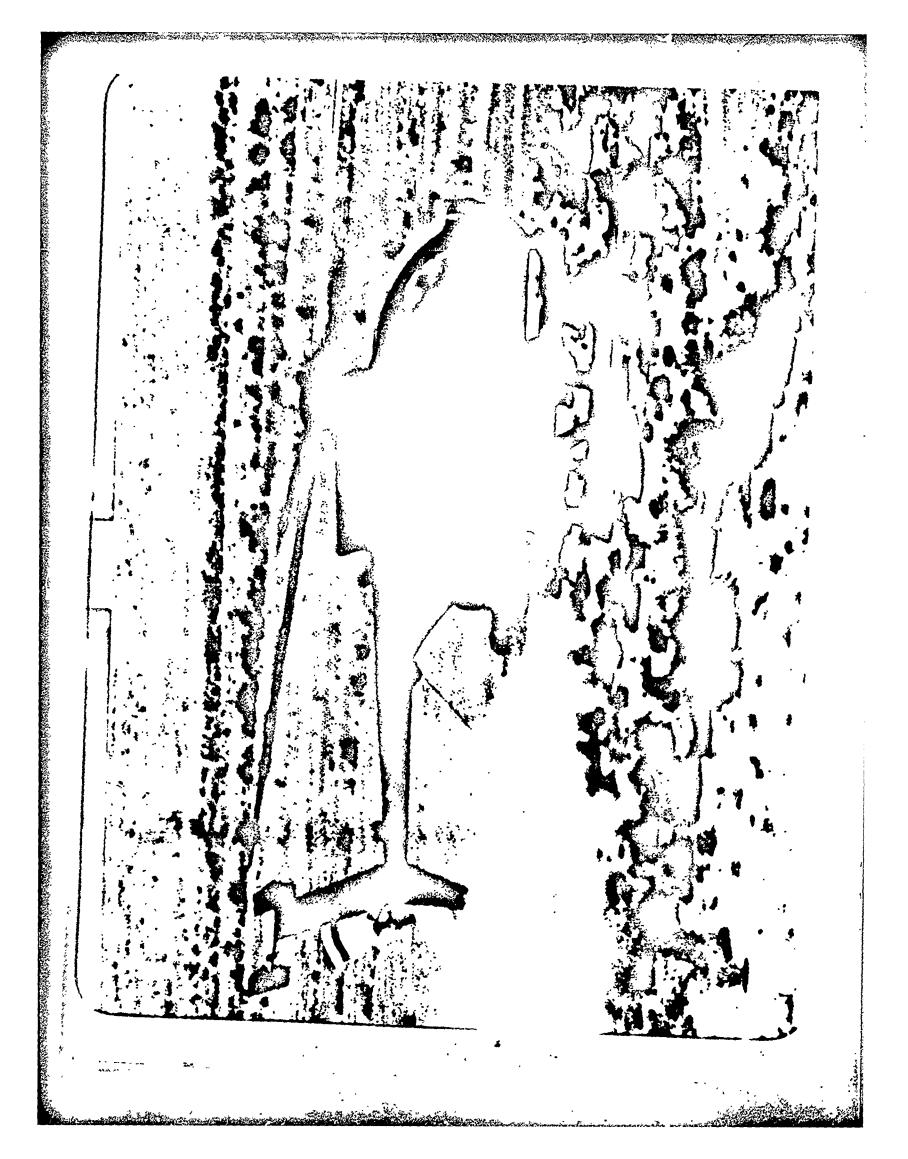
AVIATION UNITS SHOULD PROVIDE THE READINESS TO SUSTAIN

THE HIGHLY PROFESSIONAL AND EFFECTIVE ROKA FORCE.

(TRANSLATION)







## REVIEW

**WORKSHOP I** 

**FRAINING DEVELOPMENTS - INSTRUCTIONAL SYSTEMS DEVELOPMENT PROCESS AIRCREW TRAINING MANUAL (ATM) AND ARMY READINESS TRAINING AND EVALUATION PROGRAM (ARTEP) PUBLICATIONS AND AIDS** 

**WORKSHOP II** 

SYNTHETIC FLIGHT TRAINING SYSTEM (SFTS)

AVIATOR TRAINING ENLISTED TRAINING ON THE JOB TRAINING

## **WORKSHOP III**

1. TACTICAL AVIATION TRAINING

2. AVIATION SAFETY

3. AVIATION STANDARDIZATION

SERVICE SCHOOLS TRAINING IN AVIATION

## WORKSHOP III

TACTICAL TRAINING

TERRAIN FLIGHT

NIGHT TRAINING

TACTICAL INSTRUMENT

MOUNTAIN FLYING

HELICOPTER GUNNERY

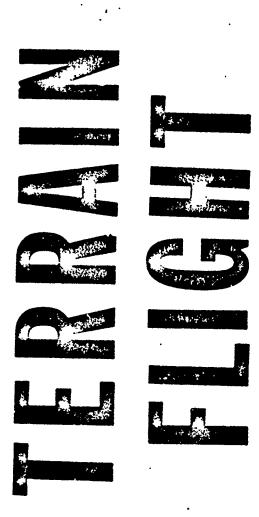
AIRSPACE MANAGEMENT

AIR-TO-AIR COMBAT

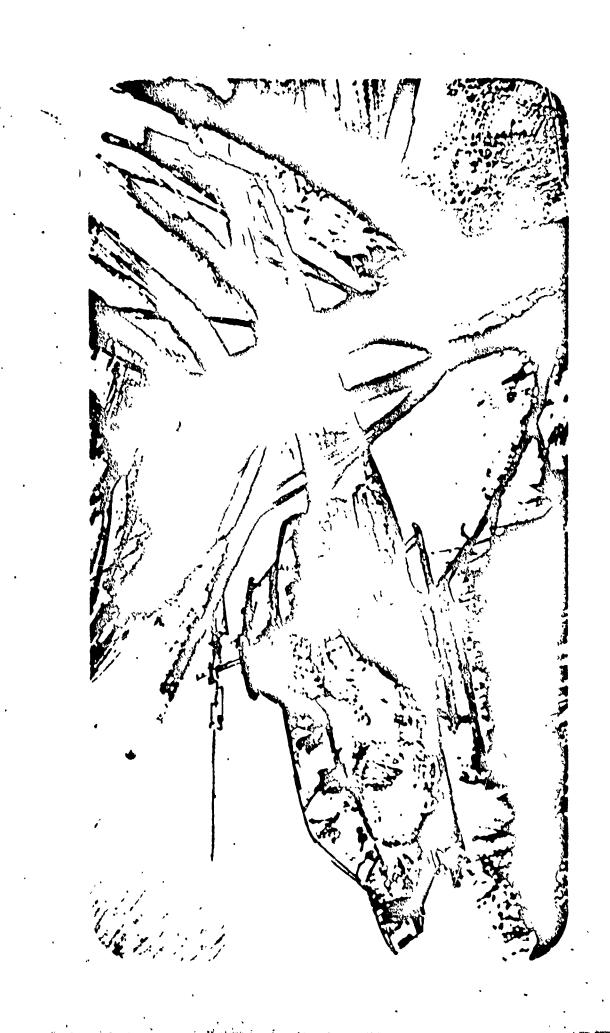
AIRCRAFT SURVIVABILITY EQUIPMENT

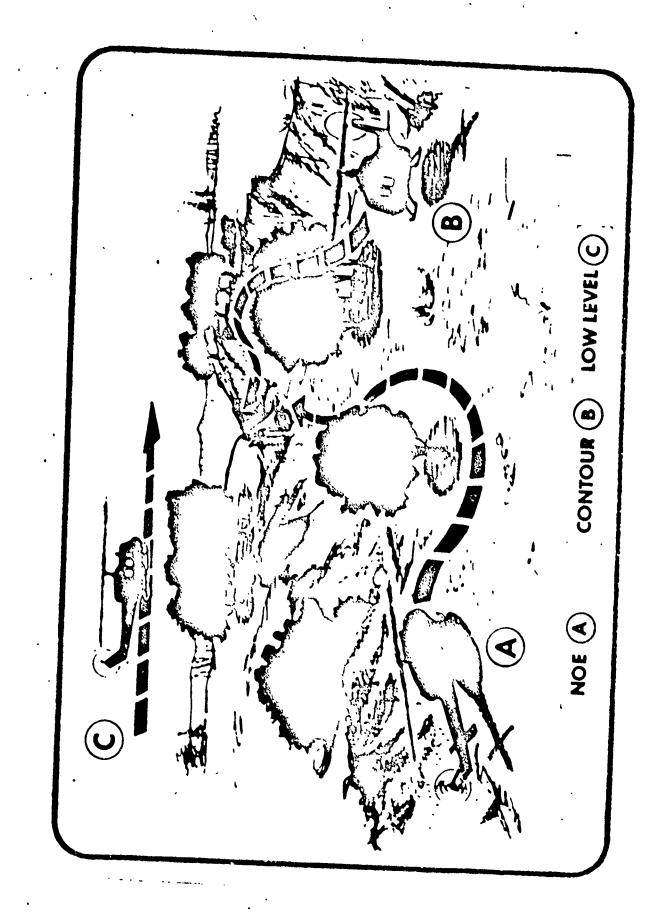
U.S. ARMY AVIATION TRAINING

TO HAT WAR STANDARD OF THE STA TRAINING ACCIDENT ON THE PROPERTY OF TH



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# TERRAIN FLIGHT TRAINING PROGRAM

INITIAL QUALIFICATION

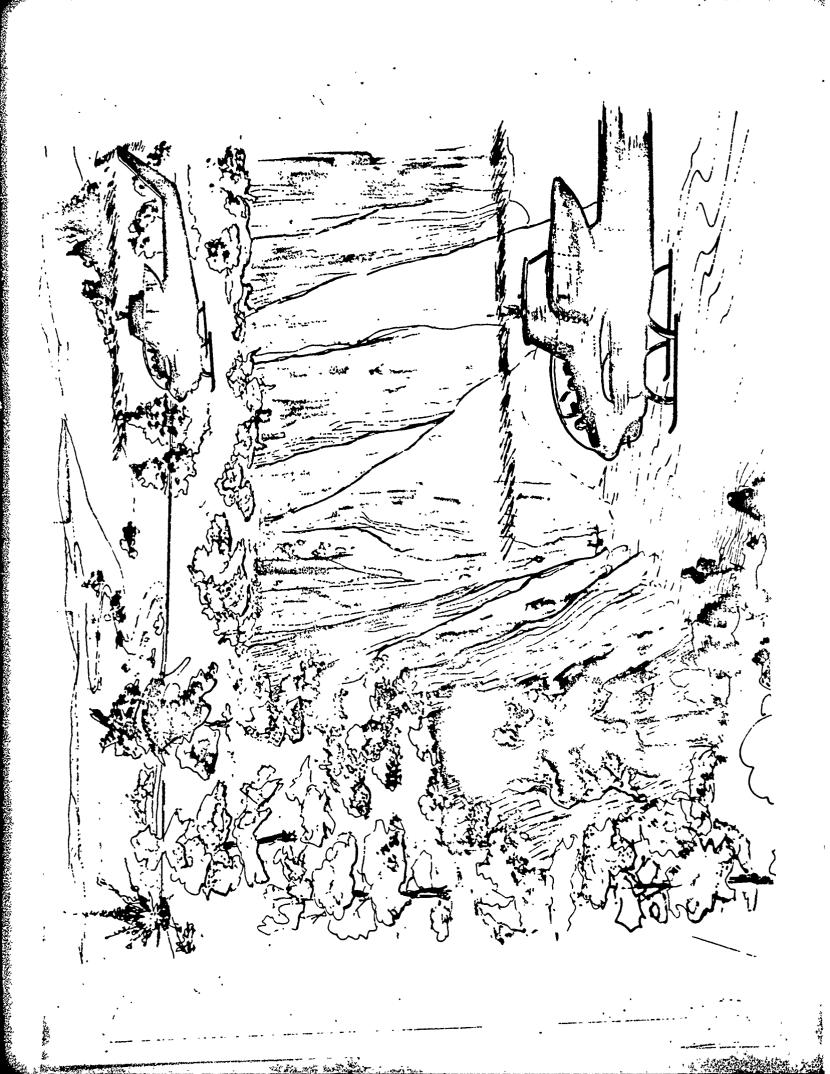
ADVANCED TRAINING

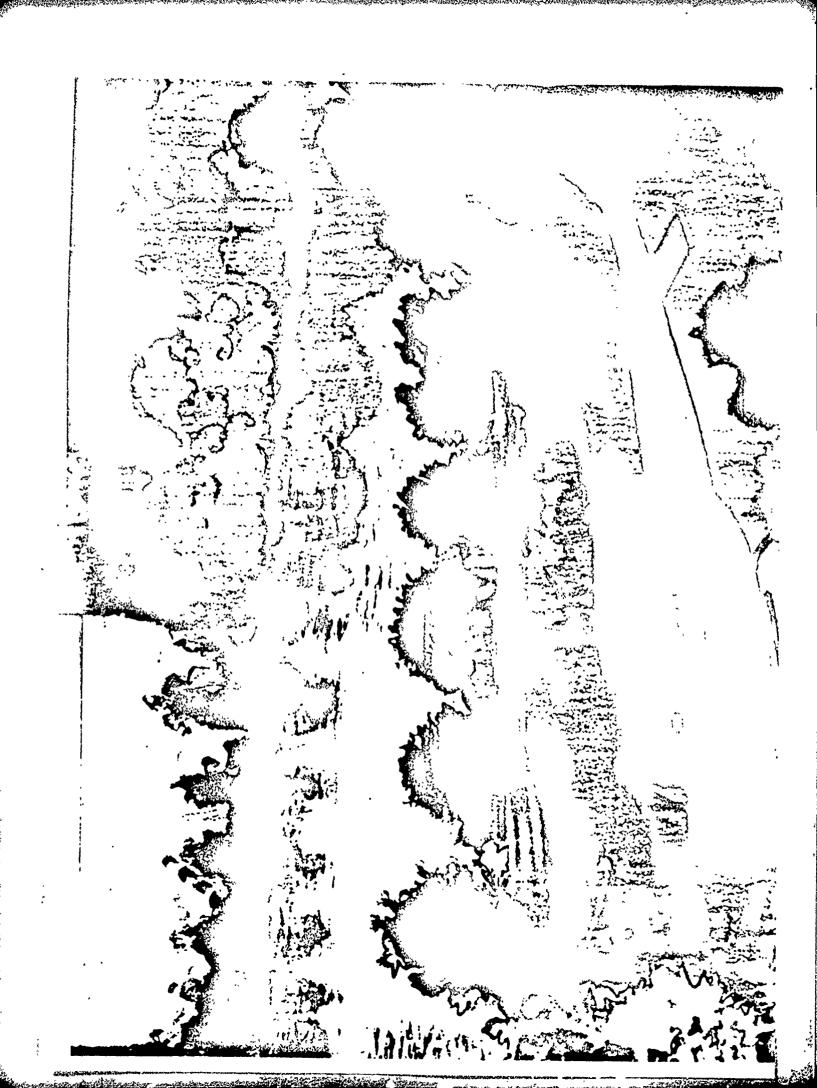
# FERRAIN FLIGHT CONSIDERATIONS

LIMITED COMMUNICATIONS

AND CONTROL DECENTRALIZED COMMAND

INCREASED MAINTENANCE





## VIGHT TACTICAL FLIGHT MODES

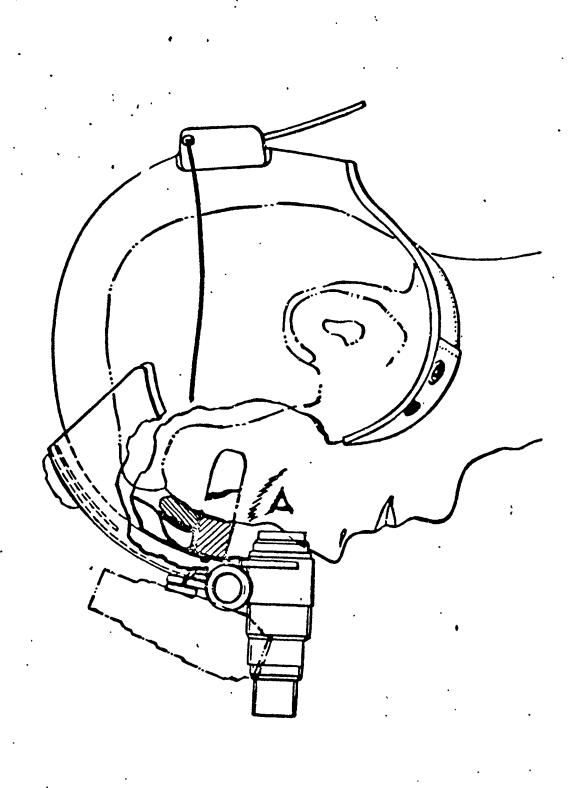
MIGHT HAWK

- UNAIDED VISION

NIGHT VISION GOGGLES

- AIDED VISION





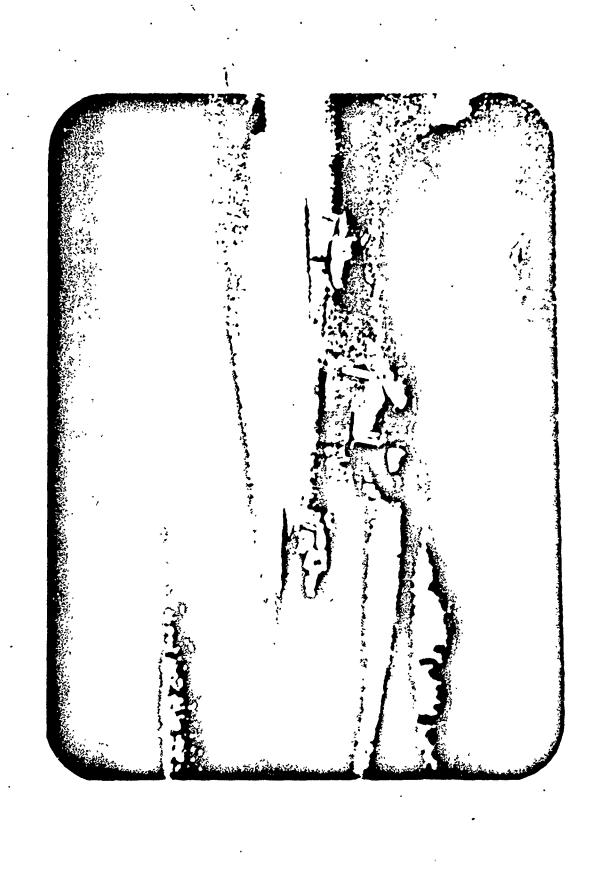
## MEDICAL EVALUATION

NIGHT BLINDNESS

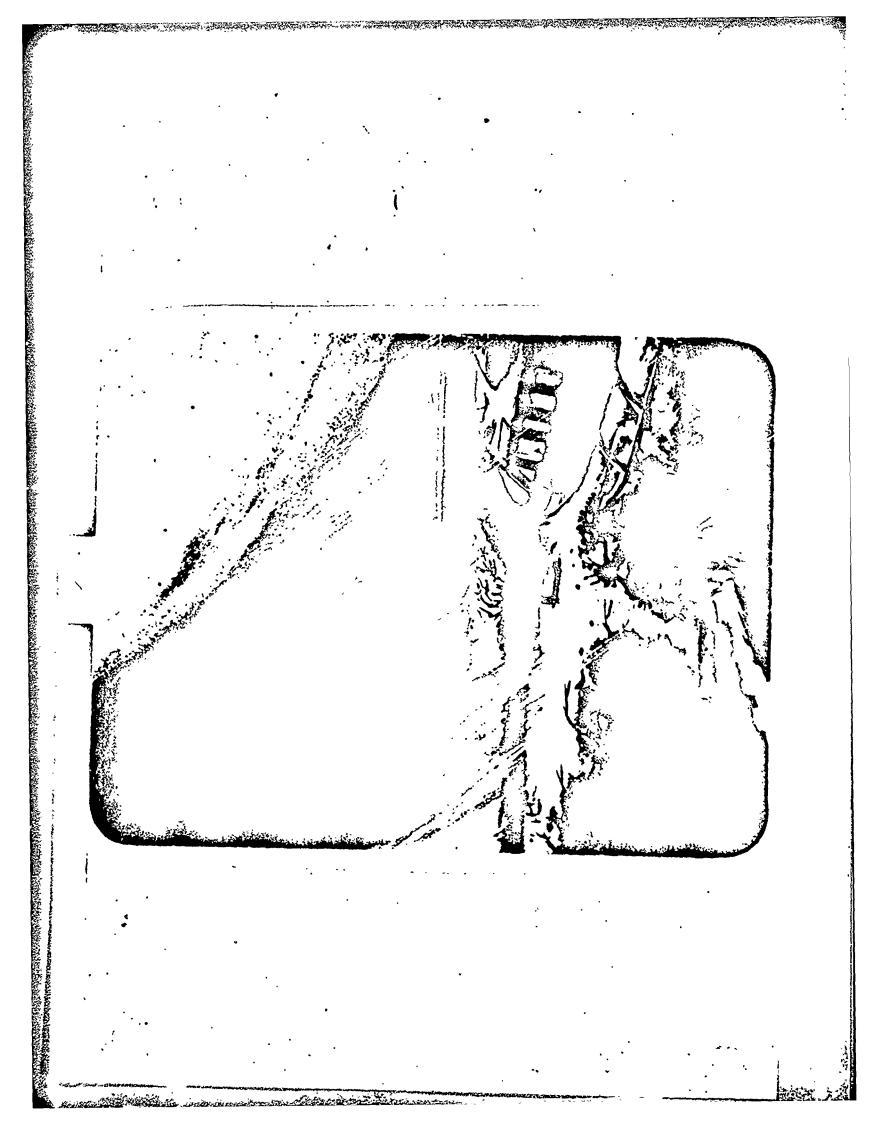
ASTIGMATISM

## NIGHT TRAINING PROGRAM

- INITIAL TRAINING
- ACADEMIC
- **PSYCHOLOGICAL**
- FLIGHT IN NIGHT HAWK
  - NVG FLIGHT IN
- PROFICIENCY TRAINING
- CONTINUOUS PRACTICE INTEGRATED WITH UNIT
- TRAINING INTEGRATED



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## TACTICAL INSTRUMENT FLIGHT

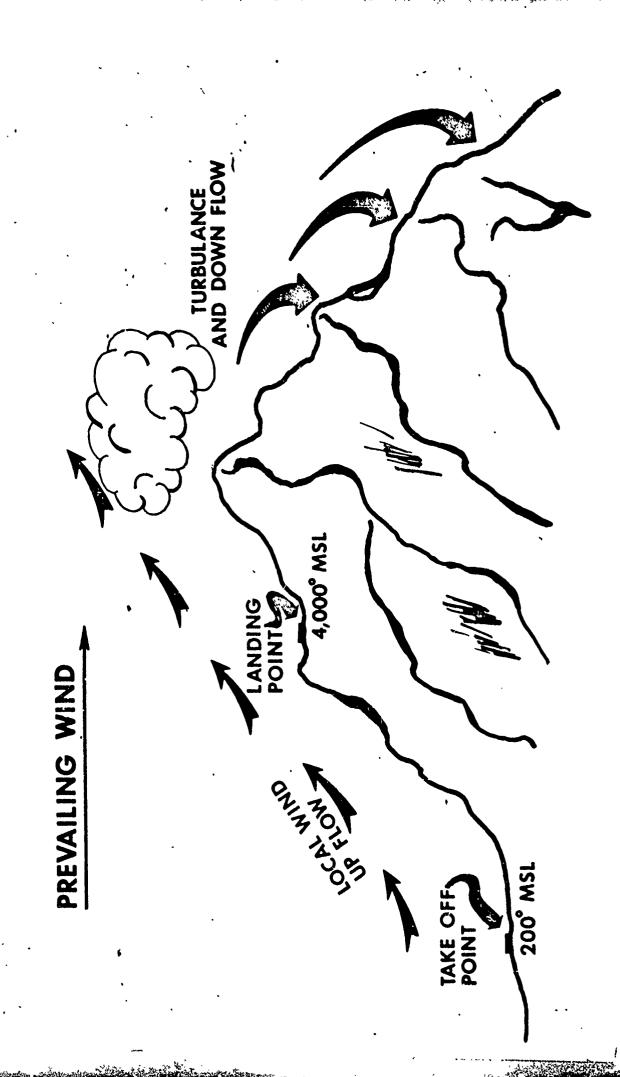
ENABLES OPERATIONS IN ADVERSE WEATHER

CONDUCTED AT LOW ALTITUDES

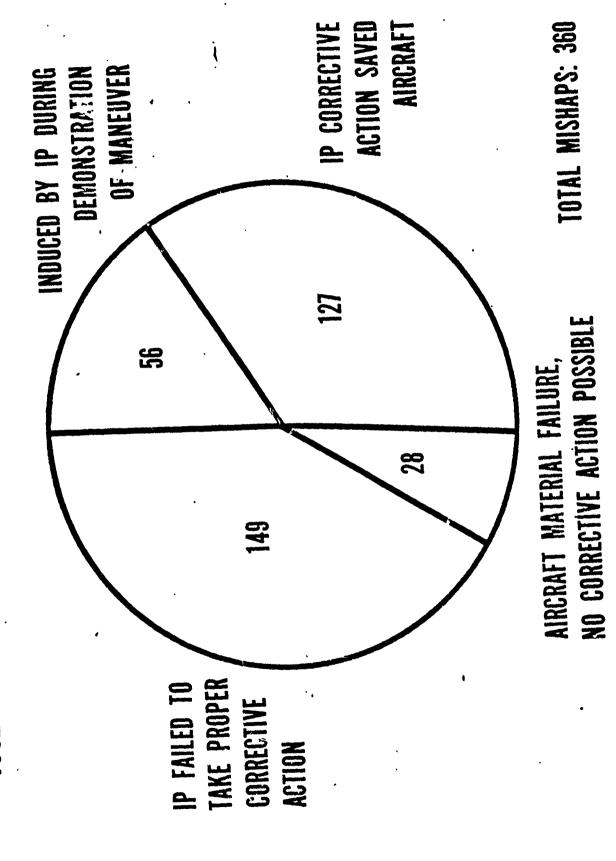
MINIMUM USE OF NAVIGATIONAL AIDS

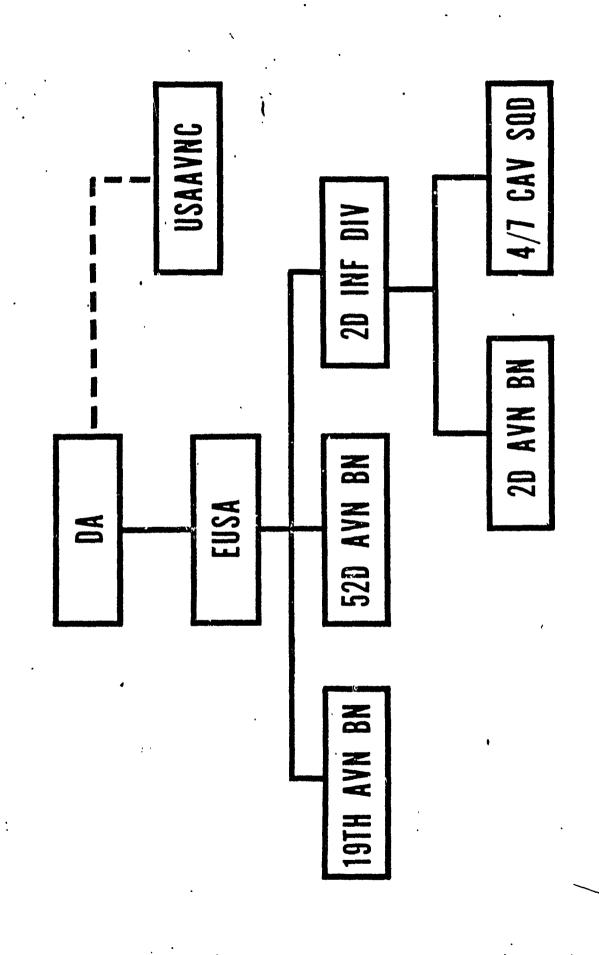
REQUIRES DETAILED PLANNING





1962 AIRCRAFT MISHAPS INVOLVING INSTRUCTOR PILOTS





THE WAS COURSE CARROLL SAME SAME SAME SAME

#### BOARD AVIATION STANDARDIZATION POLICY DEPARTMENT OF THE ARMY

#### MEMBERSHIP

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U.S. ARMY EUROPE

DA DCSPERS (U.S. ARMY SAFETY CENTER)

**e** U.S. ARMY JAPAN

DA DCSLOG

EIGHTH U.S. ARMY

DCSRDA

U.S. ARMY MATERIEL DEVELOPMENT AND READINEES COMMAND

SURGEON

U.S. ARMY COMMUNICATION COMMAND (USAASO)

TRAINING & DOCTRINE COMMAND U.S. APT

CNGB

U.S. ARMY FORCES COMMAND

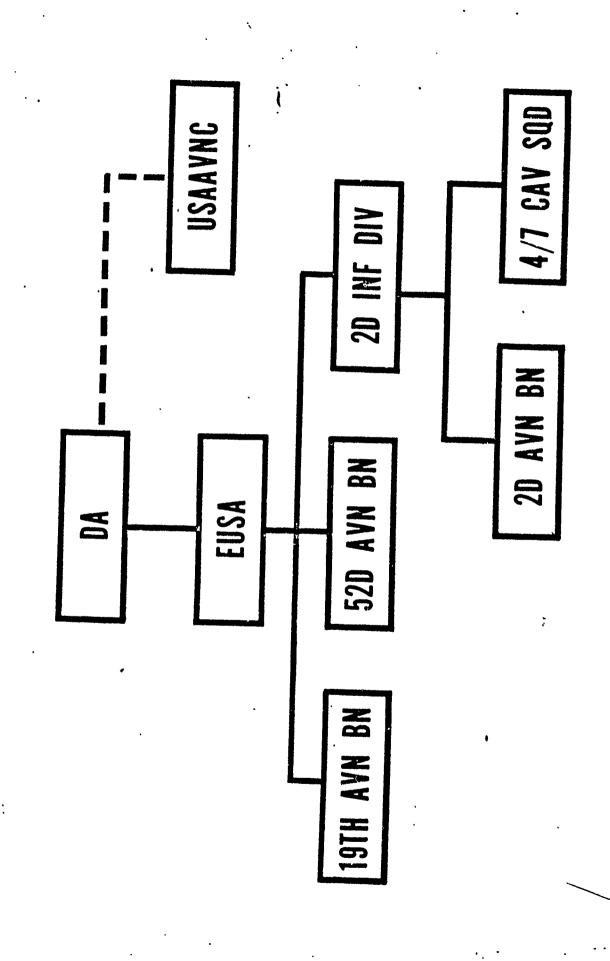
MILPERCEN

■ U.S. ARMY MILITARY DISTRICT OF WASHINGTON

U.S. ARMY INTELLIGENCE COMMAND

U.S. ARMY AVIATION CENTER

LAND SOMTHEAST ARMY



## INSTALLATION BOARD COMPOSITION

#### MEMBERS

NORMAL DUTY

PRESIDENT

SECRETARY

AVIATION STANDARDIZATION OFFICER

**AVIATION SAFETY OFFICER** 

INSTRUMENT FLIGHT EXAMINER

FLIGHT SURGEON

STANDARDIZATION INSTRUCTOR PILOT FOR EACH TYPE AIRCRAFT

AIRCRAFT MAINTENANCE OFFICER

INSTALLATION AVIATION OFFICER

AVIATOR OR STAFF OFFICER

STANDARDIZATION OFFICER

AVIATION UNIT SAFETY OFFICER

AIRCRAFT MAINTENANCE OFFICER

FLIGHT SURGEON

STANDARDIZATION INSTRUCTOR PILO

INSTRUMENT FLIGHT EXAMINER

## INSTALLATION BOARD COMPOSITION

#### MEMBERS

### NORMAL DUTY

PRESIDENT

SECRETARY

**AVIATION STANDARDIZATION OFFICER** 

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AIRCRAFT MAINTENANCE OFFICER

FLIGHT SURGEON

STANDARDIZATION INSTRUCTOR PILOT FOR EACH TYPE AIRCRAFT

NSTRUMENT FLIGHT EXAMINER

INSTALLATION AVIATION OFFICER

AVIATOR OR STAFF OFFICER

STANDARDIZATION OFFICER

**AVIATION UNIT SAFETY OFFICER** 

AIRCRAFT MAINTENANCE OFFICER

FLIGHT SURGEON

STANDARDIZATION INSTRUCTOR PILOT

INSTRUMENT FLIGHT EXAMINER

# **AVIATION UNIT STANDARDIZATION PERSONNEL**

FUNCTION

COMMANDER

OPERATIONS OFFICER

INSTRUCTOR PILOTS

AVIATION MAINTENANCE OFF.

INSTRUMENT FLIGHT EXAMINER

AVIATION SAFETY OFFICER

UNIT POLICIES AND TRAINING PROGRAM

ADDITIONAL DUTY - STANDARDIZATION OFFICER

ONE OR MORE FOR EACH TYPE AIRCRAFT

SUPERVISE AIRCRAFT MAINTENANCE

USUALLY ONE PER COMPANY SIZE UNIT

SUPERVISE UNIT ACCIDENT PREVENTION PROGRAM

# **AVIATION UNIT STANDARDIZATION PERSONNEL**

#### DUTY

### FUNCTION

COMMANDER

OPERATIONS OFFICER

INSTRUCTOR PILOTS

INSTRUMENT FLIGHT EXAMINER

**AVIATION SAFETY OFFICER** 

UNIT POLICIES AND TRAINING PROGRAM

ADDITIONAL DUTY - STANDARDIZATION OFFICER

ONE OR MORE FOR EACH TYPE AIRCRAFT

USUALLY ONE PER COMPANY SIZE UNIT

SUPERVISE UNIT ACCIDENT PREVENTION PROGRAM

# INSTRUCTOR PILOT/INSTRUMENT FLIGHT EXAMINER SELECTION

ATTENDS COURSE AT AVIATION SCHOOL

NOMINATED BY UNIT COMMANDER

EVALUATED BY LOCAL STANDARDIZATION BOARD

## STANDARDIZATION INSTRUCTOR PILOT DUTIES AND RESPONSIBILITIES

- HIGHEST LEVEL INSTRUCTOR PILOT
- SELECTED BY PROVEN PERFORMANCE
- 当の MUST BE EVALUATED ANNUALLY BY ANOTHER
- DESIGNATED BY LOCAL STANDARDIZATION BOARD
- MEMBER OF STANDARDIZATION BOARD
- TECHNICAL ADVISOR TO COMMANDER
- EVALUATES INSTRUCTOR PILOTS
- MAY FUNCTION AS INSTRUCTOR PHLOT
- STATUS IS TEMPORARY

# INSTRUCTOR PILOT DUTIES & RESPONSIBILITIES

- CONDUCTS AVIATOR TRAINING & EVALUATIONS

- BE EVALUATED ANNUALLY BY SIP

- DESIGNATED BY LOCAL STANDARDIZATION BOARD

# INSTRUMENT FLIGHT EXAMINER DUTIES & RESPONSIBILITIES

- CONDUCT INSTRUMENT FLIGHT EVALUATIONS

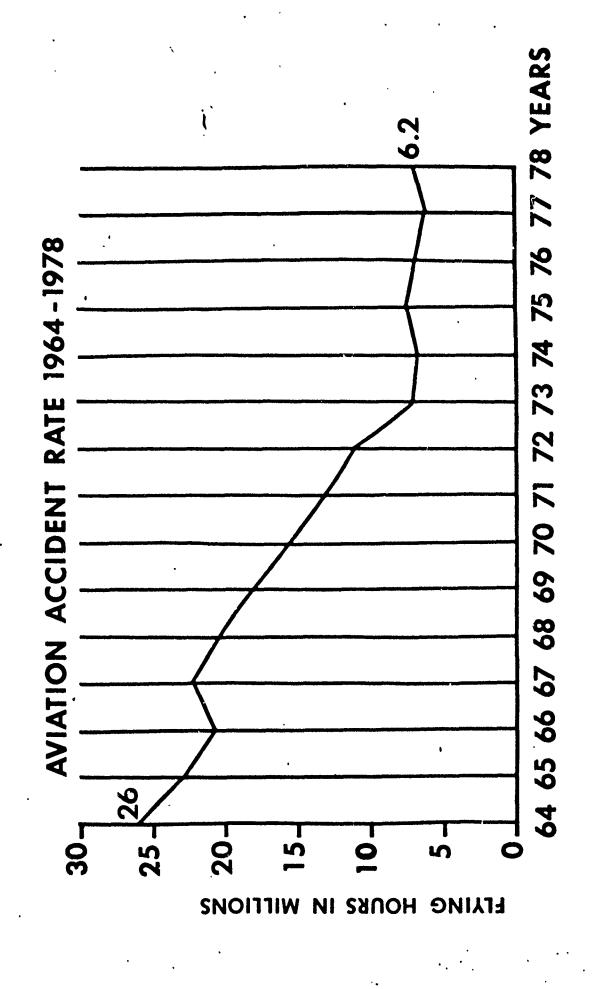
- CONDUCT INSTRUMENT FLIGHT TRAINING

MAY BE MEMBER OF LOCAL STANDARDIZATION BOARD

- SHOULD BE INSTRUCTOR PILOT IN AIRCRAFT

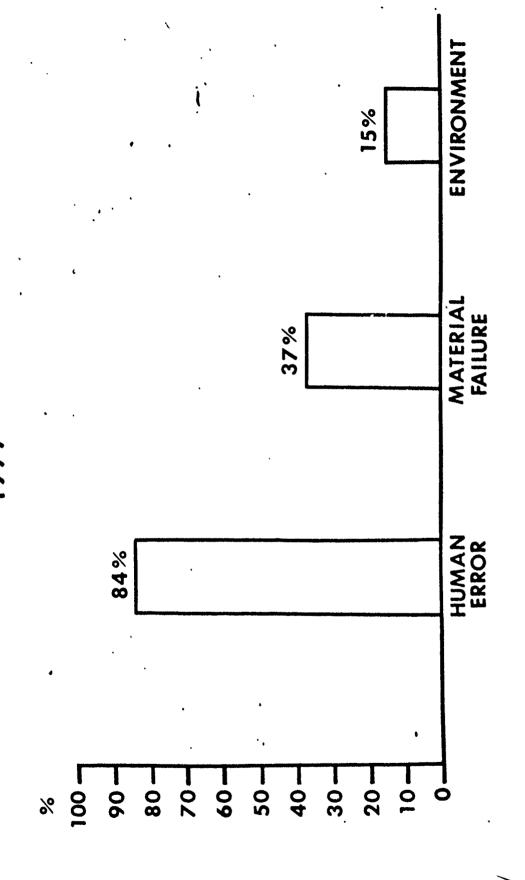
DESIGNATED BY LOCAL STANDARDIZATION BOARD

AVIATION UNITA AVIATOR UNIT INSTRUCTORS TRAINING PROGRAM STDZN BOARD INSTRUCTOR PILOT INSTRUMENT FLIGHT EXAMINER



#### PREVENTION SAFETY ACCIDENT

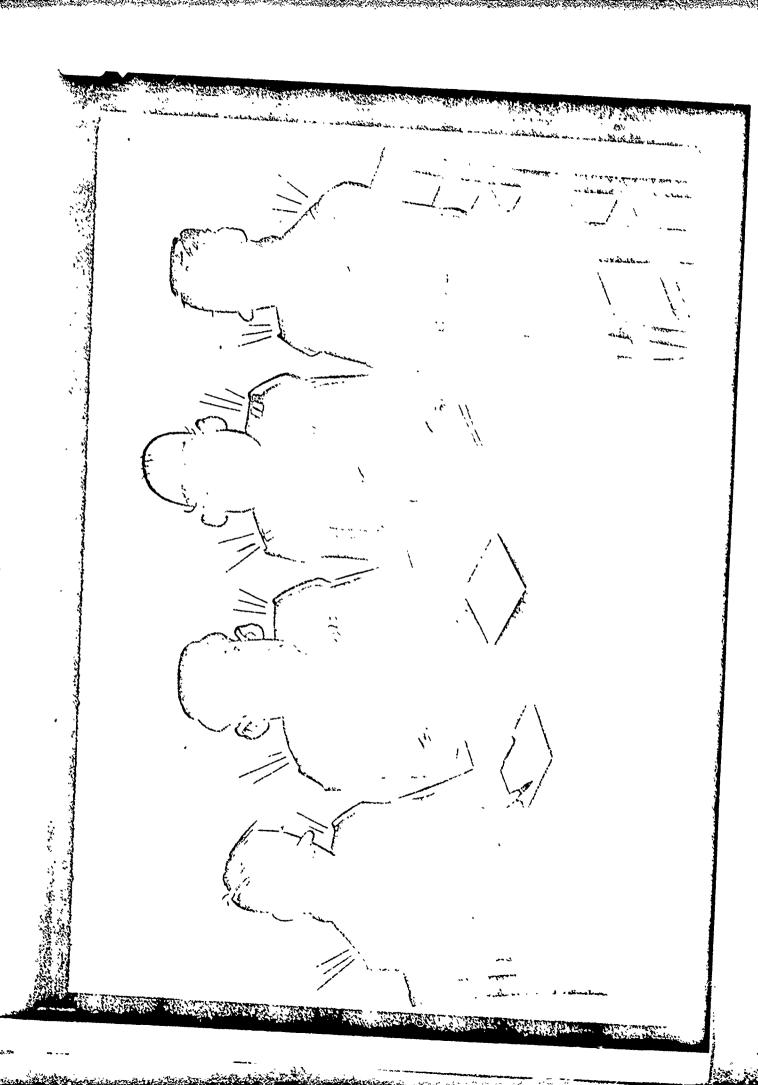
CAUSE FACTORS - U. S. ARMY ACFT ACCIDENTS
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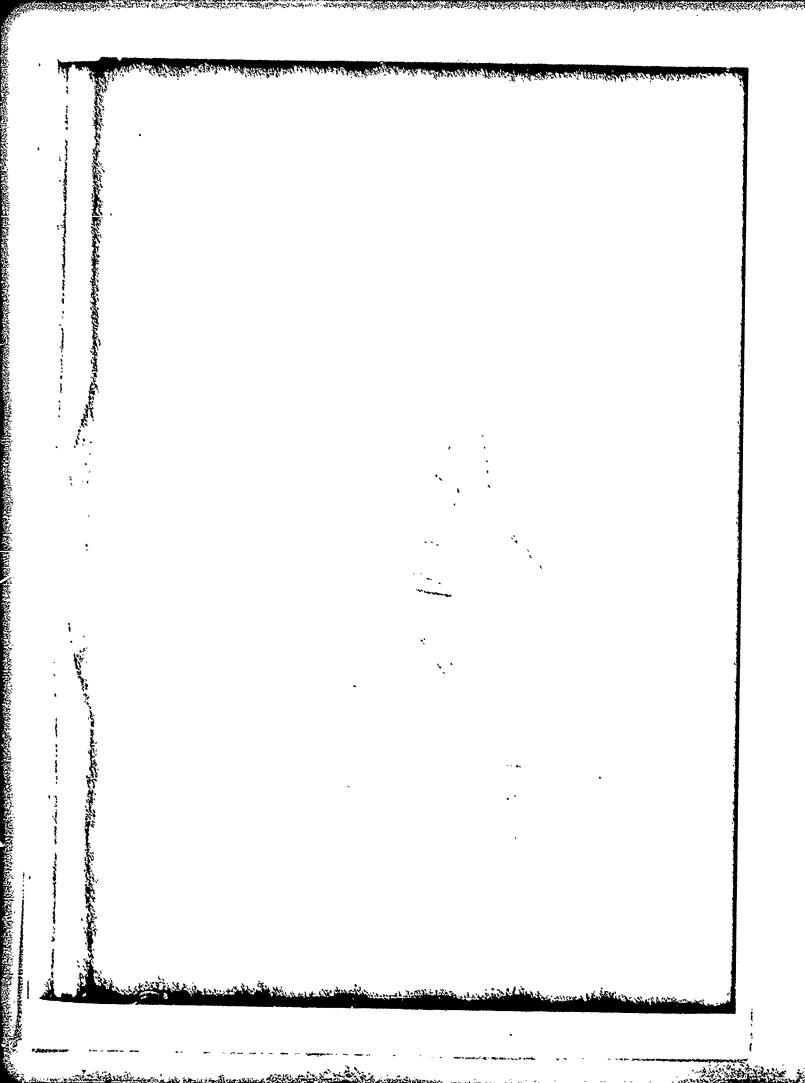


## AVIATION ACCIDENT PREVENTION

- WHAT DO YOU WANT AN ACCIDENT PREVENTION PROGRAM TO ACCOMPLISH ?
- HOW AND WHERE SHOULD IT BE INTEGRATED INTO YOUR ORGANIZATION ?
- SHOULD SPECIALIZED ACCIDENT PREVENTION PERSONNEL BE TRAINED & DESIGNATED ?
- WILL THE PROGRAM HAVE THE TOTAL SUPPORT OF THE COMMANDER
- WILL THE PROGRAM BE MISSION EFFECTIVE

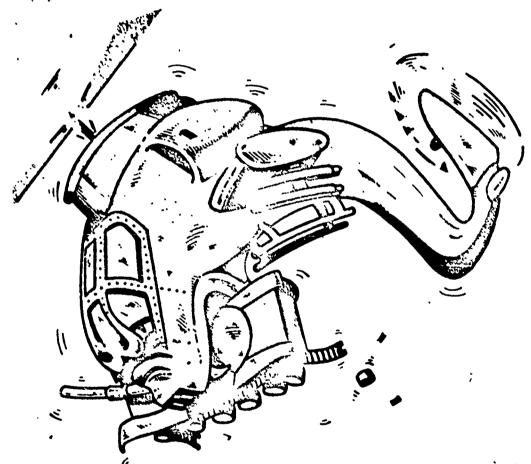
Responsibilities Commencers





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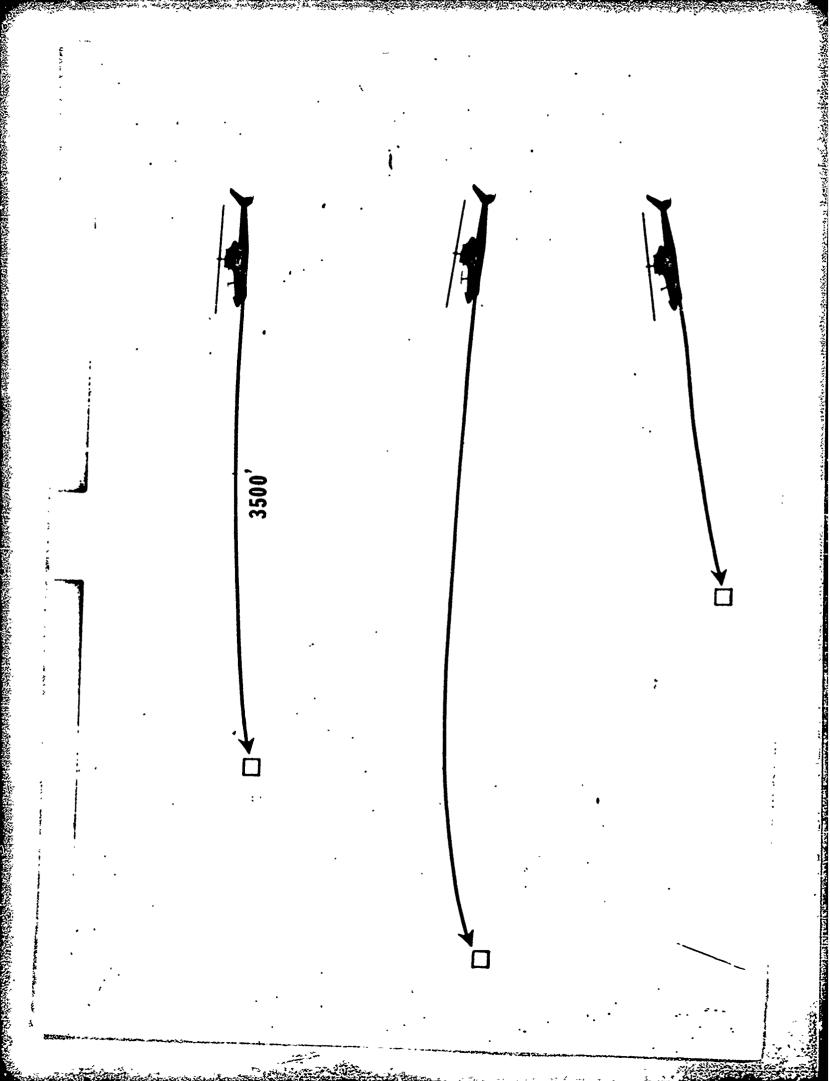


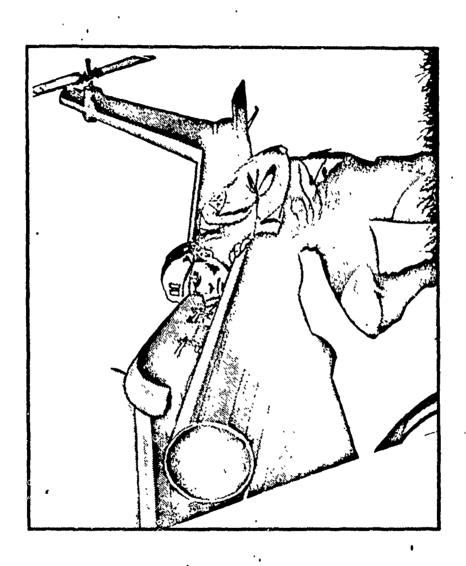
GUNNERY



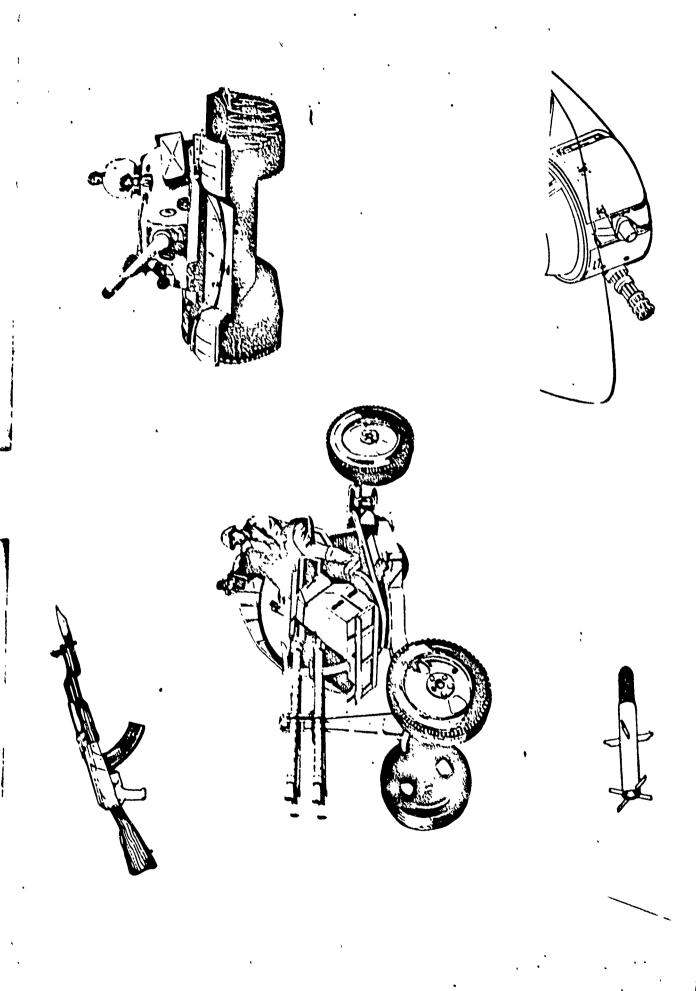
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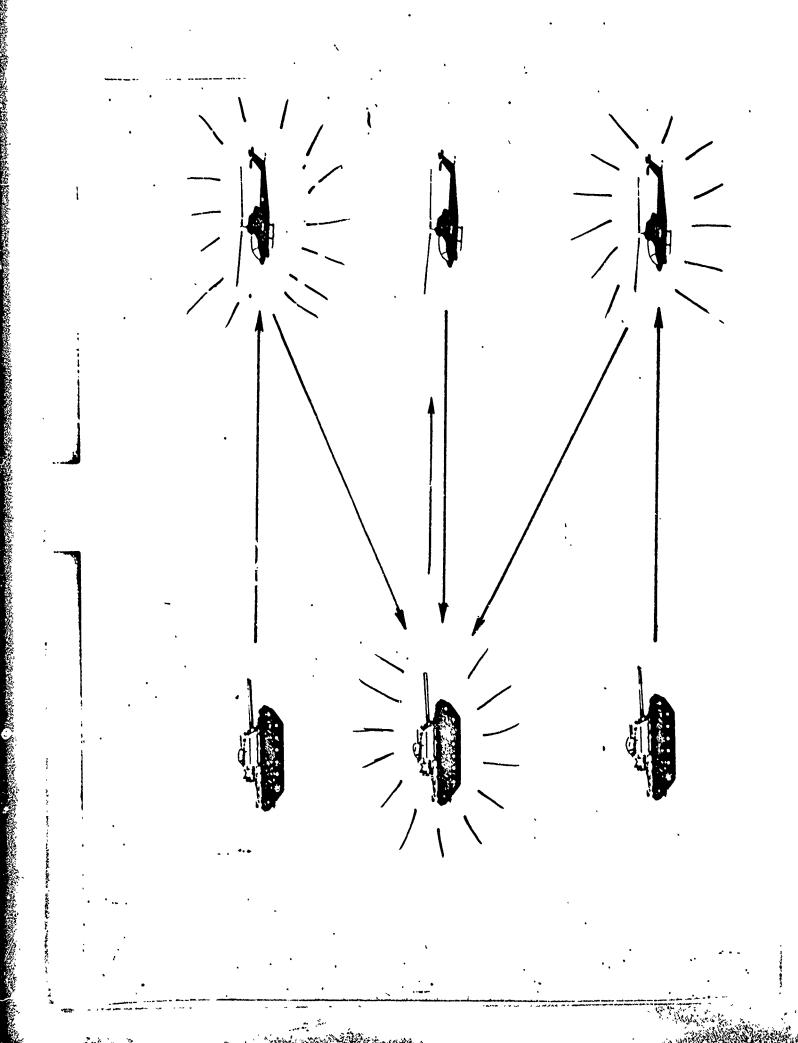




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## UNIT GUNNERY TRAINING

* INTEGRATES ALL SUBJECTS

· TRAINING PROGRAM CONTINUES ALL YEAR LONG

PHASED TRAINING

PROGRESSES FROM SIMPLE TO COMPLEX TASKS

## RANGE FIRING

- PROGRESSES TO COMPLEX TARGET ENGAGEMENTS AT UNANNOUNCED RANGES
- CONDUCTED ALL YEAR LONG TO MAINTAIN OPERATOR PROFICIENCY
- BEGINS WITH SIMPLE KNOWN DISTANCE FIRING EXERCISES

## RANGE FIRING

- OPERATOR CONDUCTED ALL YEAR LONG TO MAINTAIN **PROFICIENCY**
- BEGINS WITH SIMPLE KNOWN DISTANCE FIRING EXERCISES
- PROGRESSES TO COMPLEX TARGET ENGAGEMENTS UNANNOUNCED RANGES

# ANNUAL GUNNERY TRAINING RESOURCES

REQUIREMENTS FOR ONE AH-1G TIMES THE NUMBER AIRCRAFT TO FIRE

WEAPON

ROUNDS AMMUNITION

7.62 MACHINE GUN

23,250

40mm GRENADE LAUNCHER

009

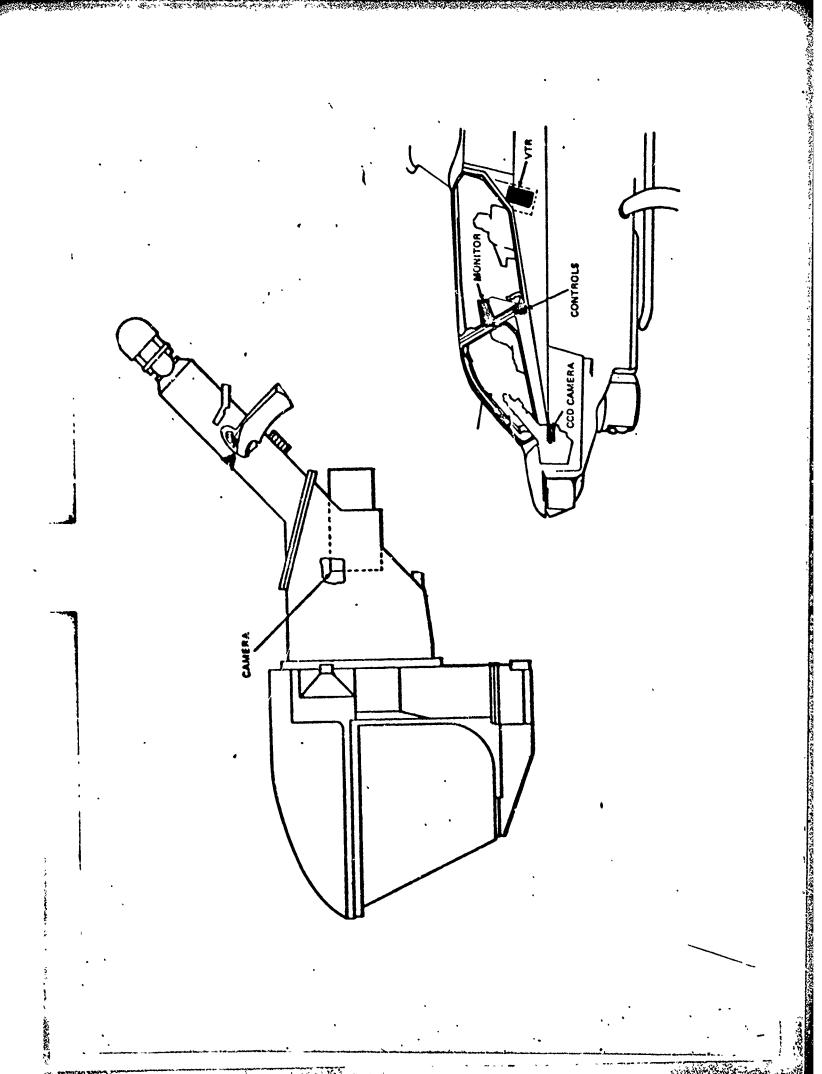
2.75 INCH AERIAL ROCKET

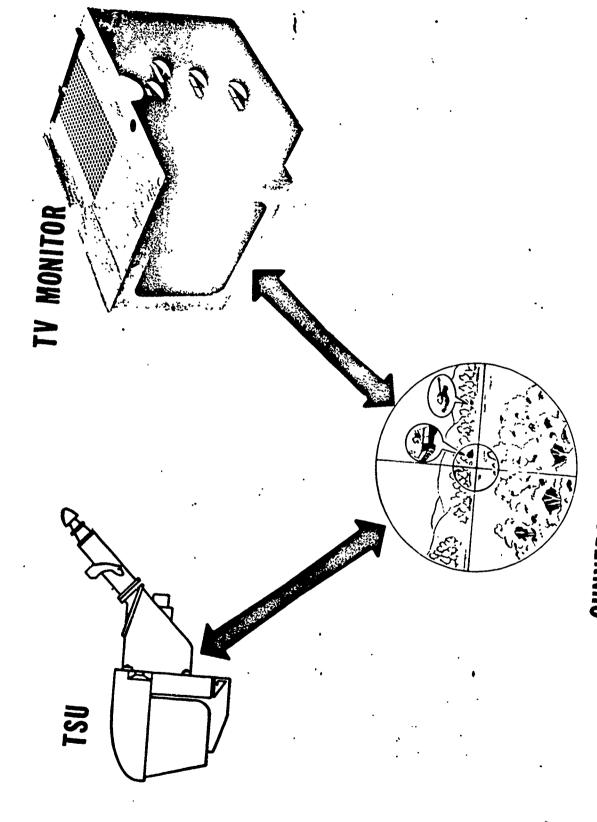
MO1

2,000

20/30mm CANNON

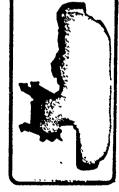
RANGES REQUIRED FOR MANEUVER SPACE AND REALISM LARGE





GUNNERS SIGHT PICTURE

# AIR SPACE MANAGEMENT



ADA WEAPON



FIGHTER

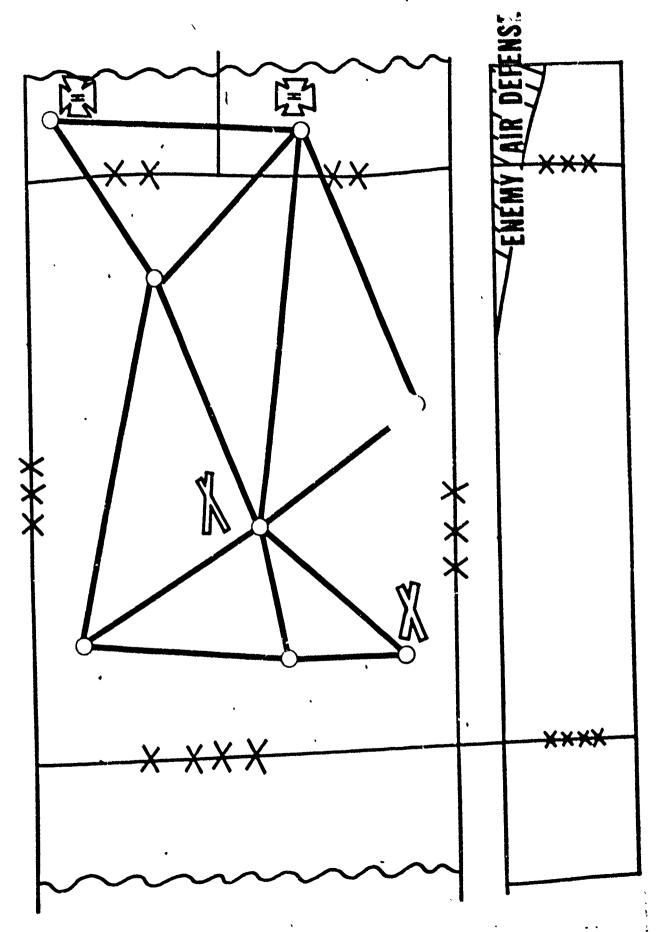


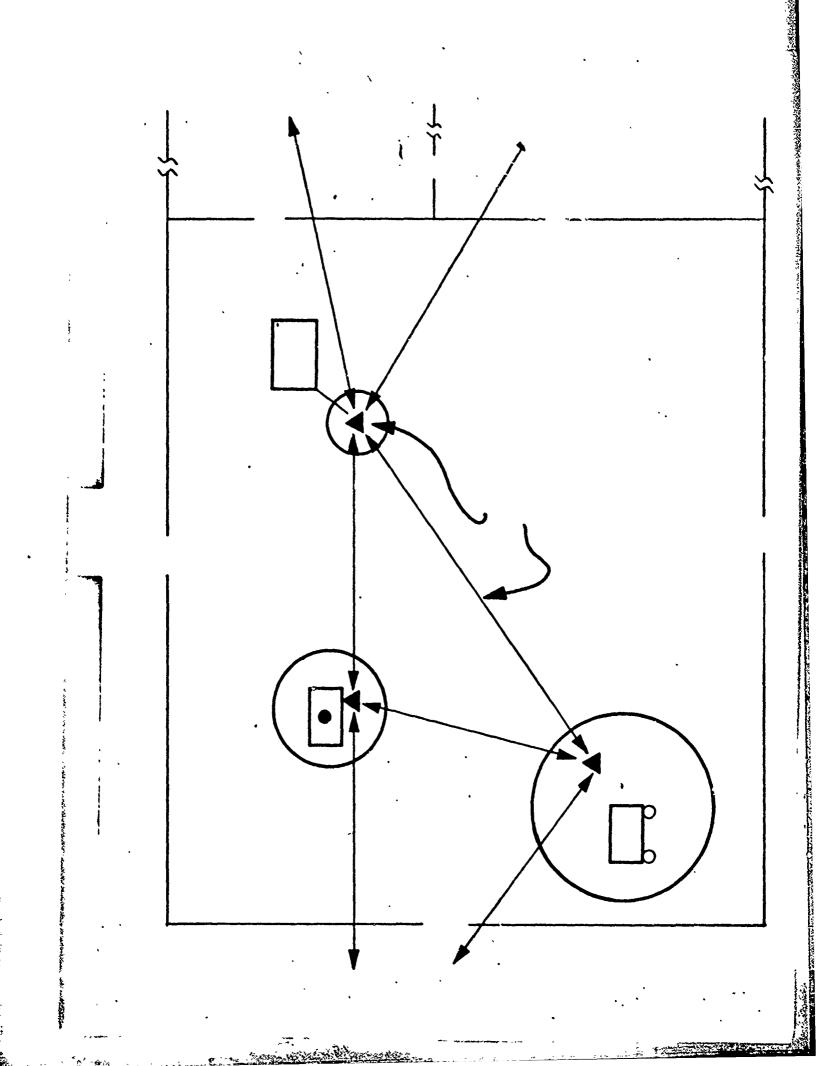
ARTILLARY



HELICOPTER

AIRSPACE MANAGEMENT AT CORPS & ABOVE





# AIRSPACE MANAGEMENT CORPS & ABOVE XXX

XX XX

TO FWD DIV

TO ARMY.

TO FWD DIV

REPORTING POINTS STANDARD USE ROUTES

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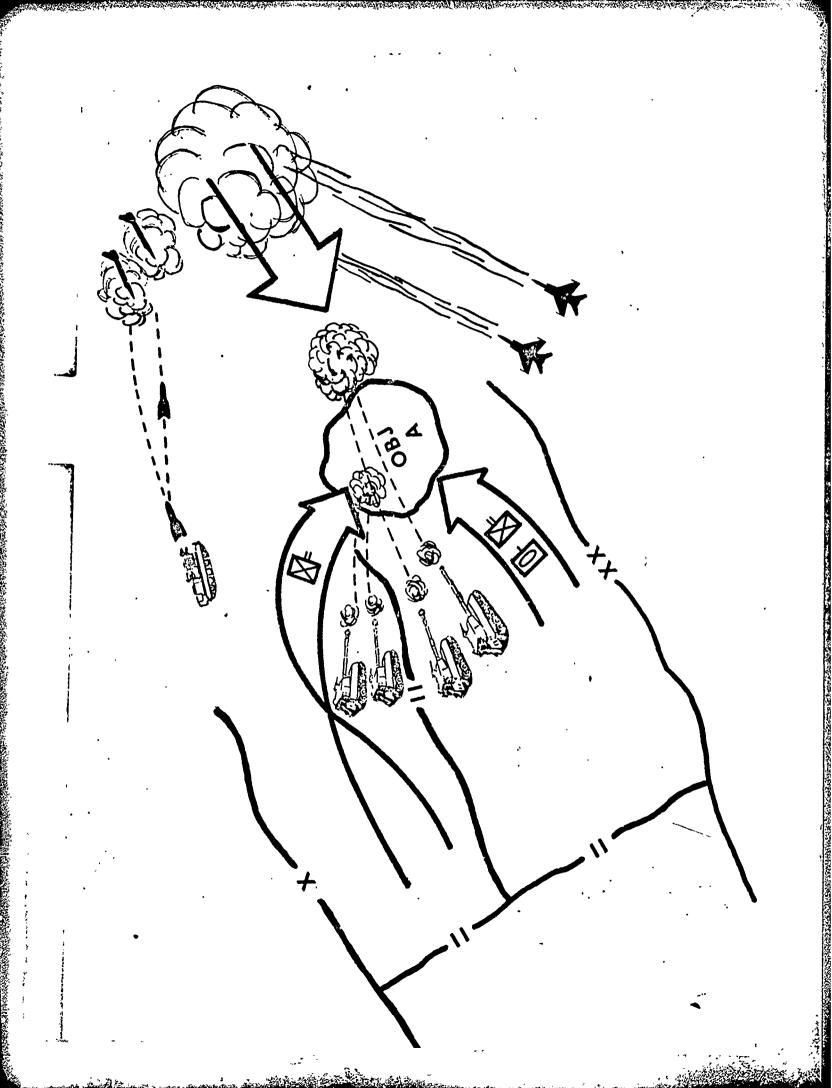
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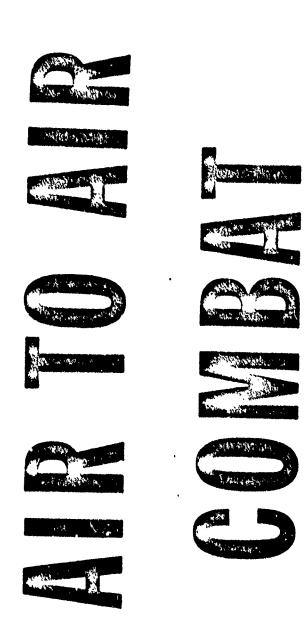
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ENEMY AIR DEFENSE AIRSPACE MANAGEMENT DIVISION & BELOW MINIMUM RISK ROUTE

## AIRSPACE MANAGEMENT TRAINING

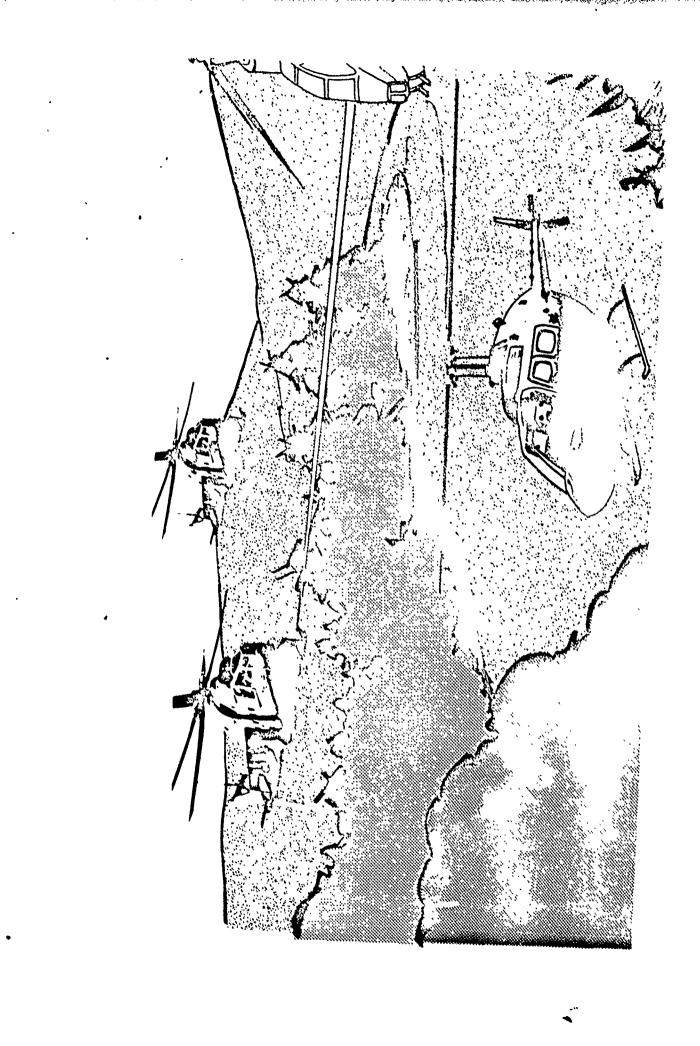
- ALL WEAPON SYSTEMS & AIRSPACE USERS
- 2. PLANNING FOR USE OF AIRSPACE
- 3. APPLY CONTROL MEASURES
- 4. COORDINATE AIR DEFENSE FIRES
- 5. MAXIMUM FREEDOM OF MOVEMENT
- 6. CHANGE WITH TACTICAL SITUATION
- 7. POSITIVE & PROCEDURAL CONTROL





### UNIT GUNNERY TRAINING

- PHASED TRAINING
- LONG TRAINING PROGRAM CONTINUES ALL YEAR
- INTEGRATES ALL SUBJECTS
- TO COMPLEX TASKS PROGRESSES FROM SIMPLE



. PERMINE

### JOINT COUNTERING

ATTACK HELICOPTERS

TACTICS DEVELOPMENT AND EVALUATION (J-CATCH TD&E)

#### J-CATCH

PURPOSE: TO DEVELOP JOINT TACTICS AND PROCEDURES TO COUNTER THE THREAT ATTACK HELICOPTER

### RESULTS OF TESTING TO DATE

- FIRING AND OBSERVATION POSITIONS
- VISUAL CONTACT BETWEEN AIRCRAFT
- ROUTES BETWEEN POSITIONS
- SCOUT LOCATION IN RELATION TO ATTACK HELICOPTER
- EMPHASIS ON TERRAIN FLIGHT
- FAST MOVING ACTION REQUIRES EXCELLENT COORDINATION:
- INTERNALLY WITH HELICOPTER CREW
- EXTERNALLY

BETWEEN HELICOPTER

BETWEEN HELICOPTER AND FIGHTER

RESULTS DID NOT CONSIDER COMBINED GROUND AIR THREAT

,然后,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是

# TRAINING REQUIREMENTS EMPHASIZED

• TERRAIN FLIGHT - NOE

NAVIGATION

CREW COORDINATION

TEAMWORK

· RANGE ESTIMATION

# TRAINING REQUIREMENTS EMPHASIZED

• TERRAIN FLIGHT - NOE

NAVIGATION •

• CREW COORDINATION

TEAMWORK

QUALIFIED SCOUT OBSERVERS

# AIRCRAFT AND WEAPONS SHORTCOMINGS

ATTACK HELICOPTER

ROTOR SYSTEM REFLECTION

CANOPY REFLECTION

COMPLEXITY OF CONTROLS AND SWITCHES

SPEED AND MOBILITY DIFFERENTIAL

ARMED VERSUS UNARMED SCOUT

CURRENT HELICOPTER WEAPONS SYSTEMS NOT DESIGNED FOR AIR-TO-AIR COMBAT

AIR FORCE FIGHTERS

#### ACTIONS TO BE TAKEN AS A RESULT OF FINDINGS TO DATE

- NEW TRAINING LITERATURE
- NEW PROGRAMS OF INSTRUCTION
- DEVELOPE NEW HARDWARE
- AIR-TO-AIR MISSLES
- INCREASE SURVIVABILITY
- EVALUATE SPEED VERSUS PAYLOAD REQUIREMENTS FOR HELICOPTERS

# EMPLOYMENT CONSIDERATIONS - 1979 BATTLEFIELD

AIR AND GROUND THREAT

● OFFENSIVE

HELICOPTER VS HELICOPTER

HELICOPTER VS FIGHTER

HELICOPTER VS FIGHTER OR HELICOPTER DEFENSIVE

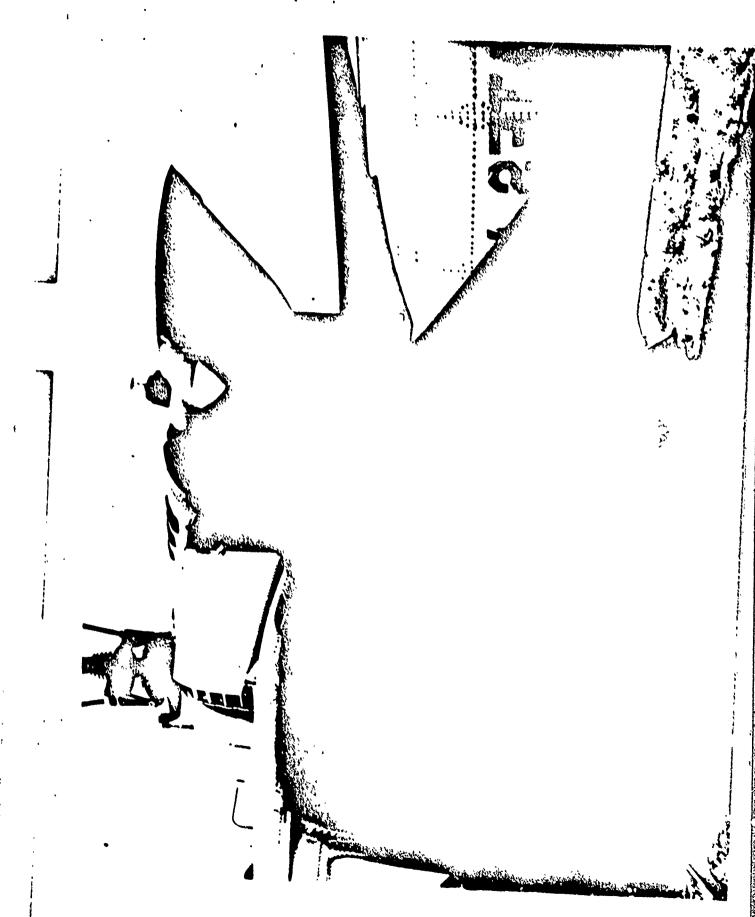
## POSSIBLE ACTIONS FOR ROKA

STUDY THREAT AIR TACTICS

COORDINATE WITH ROKAF ON JOINT TACTICS

DETERMINE POTENTIAL ROKA ANTI-HELICOPTER **OPERATIONS** 

SUPPLEATY FOURTHERT



Srigans.

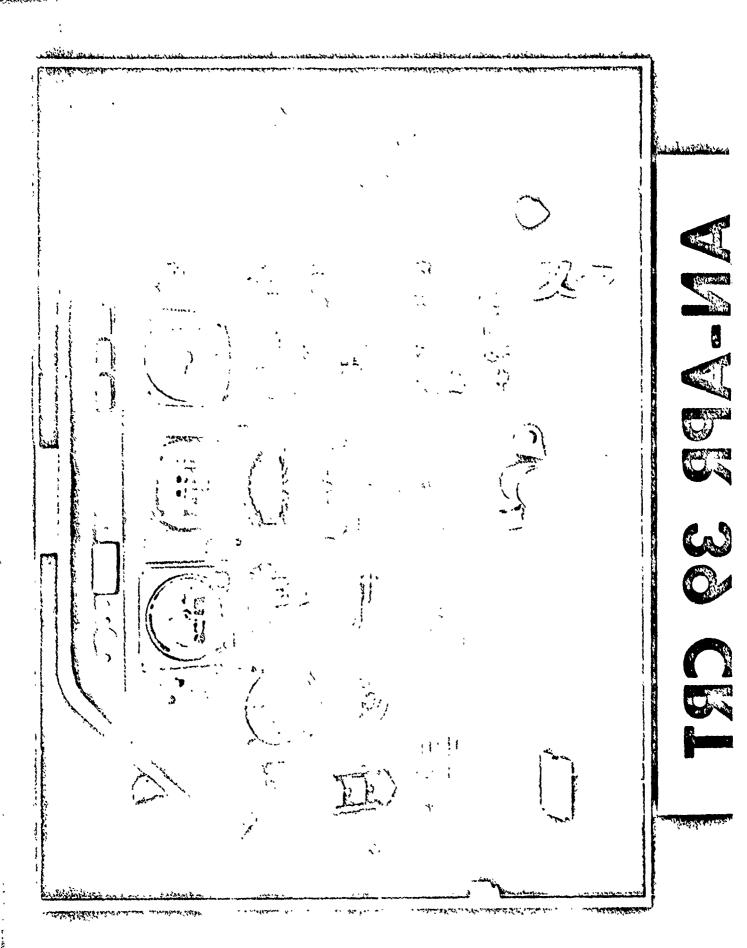
# PROVIDES WARNING OF RADAR SUPPORTED WPNS

INDICATES PRESENCE OF RADAR ACQUISITION SYSTEM

GIVES CHARACTERISTIC WARNING

INDICATES MODE OF OPERATION

PROVIDES DIRECTION INFORMATION

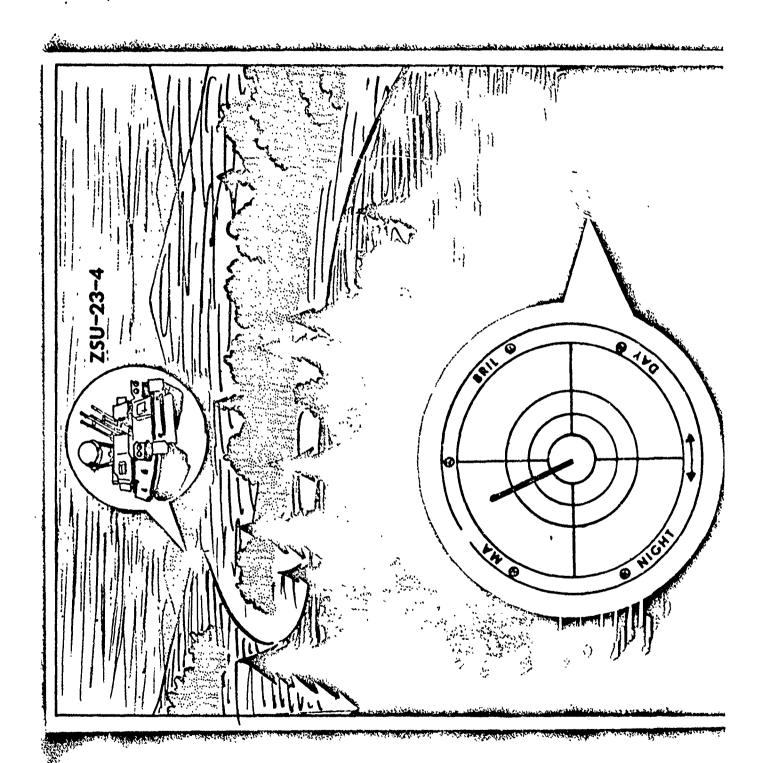


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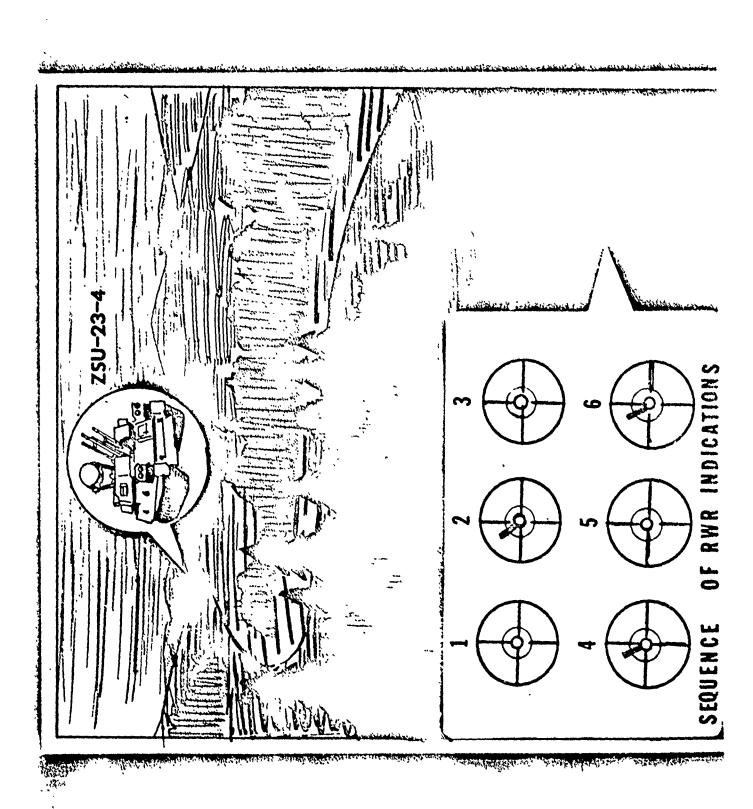
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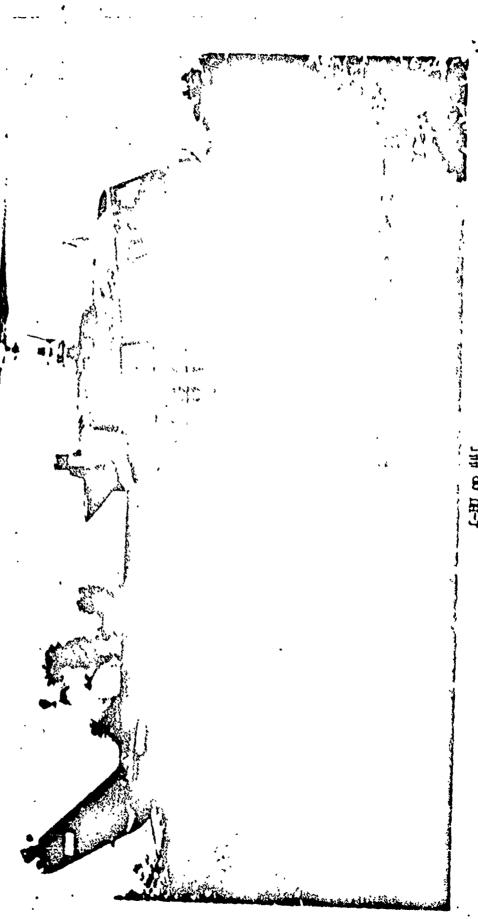
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#### PHASE |

#### 1 - 26 MAY 1978

LANGLEY AFB, VIRGINIA

SIMULATOR

PURPOSE: THE OBJECTIVE OF THIS PHASE IS TO DEVELOP FIGHTER ATTACK TECHNIQUES AGAINST HELICOPTERS AND TO ASSESS FIGHTER WEAPONS PERFORMANCE

#### PHASE II 8 NOV - 10 DEC 1978

FORT RUCKER, ALABAMA

AND EVALUATE THE CAPABILITY OF THREAT ATTACK HELICOPTER TEAM TO COUNTER THE GENERIC THREAT HELICOPTER FORCE PURPOSE: DEVELOP UNIT TACTICS, TRAINING REQUIREMENTS ATTACK HELICOPTER TEAM VS THREAT HELICOPTER FORCE

#### 6 JAN - 5 FEB 1979

EGLIN AFB, FLORIDA

AIR FORCE FIGHTERS VS THREAT HELICOPTER FORCE

PURPOSE: ASSESS FIGHTER AIRCRAFT (THE A-7, A-10, F-4 AND F-15)

EMPLOYMENT IN COUNTER HELICOPTER ROLE

#### PHASE IV 12 FEB - 3 MAR 1979

EGLIN AFB, FLORIDA

ATTACK HELICOPTER TEAM AND FIGHTER AIRCRAFT

THREAT HELICOPTER FORCE FORCE AND AIRCRAFT

PURPOSE: ASSESS COORDINATION REQUIREMENTS OF ARMY ATTACK HELICOPTER TEAMS AND AIR FORCE FIGHTER AIRCRAFT TO COUNTER THREAT ATTACK HELICOPTER FORCES SUPPORTED BY TACTICAL FIGHTERS

#### PHASE V

PLACE TO BE DETERMINED

U.S. GROUND FORCES AND ADA

VS

THREAT HELICOPTER FORCES

PURPOSE: ABILITY OF U.S. GROUND FORCES AND SUPPORTING AIR DEFENSE SYSTEM TO COUNTER THREAT ATTACK HELICOPTER FORCES

#### (DATE AND TEST SITE TO BE DETERMINED) PHASE VI

U.S. AND THREAT ATTACK HELICOPTERS, FIGHTERS, ADA AND GROUND FORCES PURPOSE: ASSESS THE COMBINED ARMS CAPABILITIES FOR COUNTERING THREAT ATTACK HELICOPTER AND FIGHTER FORCES IN REALISTIC SCENARIOS

#### CONTROL MEASURES

- COORDINATING ALTITUDE
- CONTROL ZONES
- AIRFIELD TERMINAL CONTROL ZONES
- HIGH DENSITY AIRSPACE CONTROL ZONES
- SPECIAL ROUTES
- MINIMUM RISK ROUTES (AIR FORCE)
- STANDARD-USE AIRCRAFT ROUTES (ARMY)

# SUMMARY OF AVIATOR EVALUATIONS

ALL INSTRUCTORS REQUIRED TO UNDERGO INITIAL EVALUATION

ALL AVIATORS MUST ANNUALLY COMPLETE:

A STANDARDIZATION FLIGHT EVALUATION

• AN INSTRUMENT FLIGHT EXAMINATION

A WRITTEN EXAMINATION

A MEDICAL EXAMINATION

## 

## TACTICAL INSTRUMENT TRAINING

INITIAL TRAINING

UNIT TRAINING

CONTINUATION TRAINING

SYNTHETIC FLIGHT TRAINING SIMULATORS

## KOREAN WEATHER PATTERNS

REDUCED VISIBILITY 10-26% OF YEAR

BELOW 200 1/2-2% OF YEAR

# FACTORS AFFECTING TERRAIN FLIGHT UTILIZATION

• THREAT / TERRAIN

TIME

SAFETY

### INTRODUCTION

GOOD MORNING GENTLEMEN: I'M MAJOR TOM BRUNS FROM THE CHART 1 ON U.S. ARMY'S TRANSPORTATION SCHOOL AT FORT EUSTIS, VIRGINIA, I'LL BE PRESENTING THE BRIEFINGS WE HAVE PREPARED FOR THE AVIATION LOGISTICS WORKSHOP AND WILL DO MY BEST TO ANSWER YOUR QUESTIONS AS EXPERTLY AS POSSIBLE, HOWEVER, AS A RELATIVELY JUNIOR MAJOR, YOU KNOW I HAVE GOT A LONG WAY TO GO BEFORE I COULD TRULY BE CALLED AN EXPERT ON AVIATION LOGISTICS. THAT'S WHY WE BROUGHT ALONG THE LEADER OF OUR AVIATION LOGISTICS TEAM. IT IS MY PLEASURE TO INTRODUCE YOU TO THE UNITED STATES ARMY'S FOREMOST EXPERT ON AVIATION LOGISTICS, MR. JOSEPH P. CRIBBINS. MR. CRIBBINS IS THE SPECIAL ASSISTANT FOR AVIATION LOGISTICS TO THE DEPUTY CHIEF OF STAFF FOR LOGISTICS,

DEPARTMENT OF THE ARMY. ASSISTING US IS LTC DUKE VASEY, WHO IS AN ASSISTANT TO MR. CRIBBINS. BOTH OF THESE

GENTLEMEN HAVE SPENT THEIR CAREERS IN THE FIELD OF

LOGISTICS. ALL OF US STAND READY TO DISCUSS ANY OF

THE SUBJECTS THAT HAVE BEEN SELECTED FOR THIS WORKSHOP

AS WELL AS ANY OTHER LOGISTICS SUBJECT AREA THAT MAY BE

OF INTEREST TO YOU.

# (TRANSLATION)

CHART 1 OFF

NOW, I'D LIKE TO BRIEFLY DESCRIBE TO YOU OUR SCHEDULE OF EVENTS FOR THE NEXT THREE DAYS.

# (TRANSLATION)

CHART 2 ON TODAY, WE ARE GOING TO START WITH AN OVERVIEW OF

AVIATION LOGISTICS WHICH WILL BE PRESENTED BY MR. CRIBBINS.

HE WILL HIGHLIGHT THE TOPICS WE'LL BE STUDYING FOR THE

REMAINDER OF THE WEEK. THE REST OF THE DAY, WE'LL EXAMINE SUBJECTS THAT ARE APPROPRIATE TO UNIT LEVEL ORGANIZATION AND MAINTENANCE OPERATIONS AND TECHNIQUES. WE PURPOSELY STARTED AT THE UNIT LEVEL BECAUSE WE FEEL VERY STRONGLY THAT ANY GOOD LOGISTICS SYSTEM MUST BE DESIGNED BY STARTING AT THE USER LEVEL. IDENTIFYING AND SATISFYING THE AVIATION USERS NEED IS THE MISSION OF AVIATION LOGISTICIANS.

CHART 2 OFF

(TRANSLATION)

CHART 3 ON THURSDAY, WE'LL CONTINUE WITH THAT PHILOSOPHY AS WE

DISCUSS THE FORWARD ARMING AND REFUELING POINT AND HOW WE

CONDUCT THE TRAINING OF OUR SOLDIERS. ABOUT MID-DAY, WE'LL

TRANSITION FROM THE UNIT AND INTERMEDIATE LEVELS TO HIGHER

LEVELS AS WE DISCUSS DEPOT MAINTENANCE AND SUPPLY. AND

TWO IMPORTANT PROGRAMS AT THAT LEVEL.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON FRIDAY MORNING, WE'LL CONCENTRATE ON AVIATION

LOGISTICS MANAGEMENT IN OUR HIGHER ORGANIZATIONAL LEVELS.

WE'LL CLOSE OUR PORTION OF THE WORKSHOP ABOUT MID-DAY WITH

A FEW WORDS ON STANDARDIZATION AND INTEROPERABILITY. THE

AFTERNOON IS RESERVED FOR PRESENTATIONS BY JUSMAAG AND

THE 17TH AVIATION GROUP AND LATE IN THE DAY, WE'LL REVIEW

CHART 4 OFF

(TRANSLATION)

AND CONSOLIDATE OUR CONCLUSIONS AND RECOMMENDATIONS.

EAGERLY AWAITING THE OPPORTUNITY TO DISCUSS OUR BUSINESS WITH YOU. BEFORE MF CONTINUE ANY FURTHER, ARE THERE ANY QUESTIONS?

CHART 5 ON MR. CRIBBINS WILL NOW PRESENT HIS BRIEFING,

AVIATION LOGISTICS OVERVIEW.

## THREE LEVEL AVIATION MAINTENANCE

CHART 1 ON SEVERAL YEARS AGO THE US ARMY TRANSITIONED INTO THE THREE LEVEL AIRCRAFT MAINTENANCE CONCEPT AS A MEANS OF PROVIDING EFFICIENT SUPPORT FOR ITS ARMY AIRCRAFT. THE DECISION WAS BROUGHT ABOUT BY SEVERAL FACTORS: EXPERIENCE IN VIETNAM; THE INTRODUCTION OF NEW SOPHISTICATED AIRCRAFT SYSTEMS; A NEED TO OBTAIN BETTER UTILIZATION OF PERSONNEL AND EQUIPMENT; A RECOGNITION THAT WE ARE IN AN AUSTERITY PERIOD WHERE EVERY DOLLAR MUST BE WISELY SPENT; AND, MOST IMPORTANTLY, TO PROVIDE GREATER COMBAT SERVICE SUPPORT TO THE AIR-MOBILITY CONCEPTS OF OUR ARMY.

CHART 1 OFF

## (TRANSLATION)

CHART 2 ON THE OBJECTIVES OF ARMY AIRCRAFT MAINTENANCE ARE TO INSURE SAFE, RELIABLE, AND MAINTAINABLE AIRCRAFT AND TO PROVIDE

MAXIMUM OPERATIONAL READINESS OF THE TOTAL SYSTEM THROUGH THE

ACCOMPLISHMENT OF MAINTENANCE WHERE IT CAN BE MOST

EFFECTIVELY AND ECONOMICALLY PERFORMED. THIS INCLUDES

THE AIRCRAFT AS WELL AS AVIONICS AND WEAPONS. IN

FURTHERANCE OF THIS OBJECTIVE, THREE LEVELS OF AIRCRAFT

MAINTENANCE HAVE BEEN ESTABLISHED TO ACCOMPLISH THE FOREGOING

THEY ARE AVIATION UNIT MAINTENANCE (AVUM), AVIATION INTERMEDIAT

MAINTENANCE (AVIM) AND DEPOT MAINTENANCE.

CHART 2 OFF

(TRANSLATION)

CHART 3 ON UNTIL THE IMPLEMENTATION OF THE THREE LEVEL CONCEPT,

ARMY AIRCRAFT WERE MAINTAINED IN A FOUR CATEGORY STRUCTURE

OF ORGANIZATIONAL, DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT.

OPERATING AIRCRAFT ELEMENTS WERE AUTHORIZED TO ACCOMPLISH

ORGANIZATIONAL MAINTENANCE AND COMPANY SIZE UNITS WERE ALSO

AUTHORIZED A CAPABILITY OF WHAT WAS KNOWN AS INTEGRATED DIRECT SUPPORT MAINTENANCE (IDSM). IDSM WAS THE ADDITION OF SKILLED PERSONNEL AND SPECIAL TOOLS SO THAT THE ORGANIZATION COULD ACCOMPLISH A SPECIFIC AMOUNT OF DS MAINTENANCE. UNDER THE FOUR CATEGORY STRUCTURE, TRANSPORTATION AIRCRAFT MAINTENANCE COMPANIES PROVIDED DIRECT SUPPORT AT BOTH THE DIVISIONAL AND NONDIVISIONAL LEVEL. THEY BASICALLY PROVIDED A REPAIR AND RETURN TO USER SERVICE. BACKING UP THE DS MAINTENANCE UNITS WERE THE TRANSPORTATION AIRCRAFT MAINTENANCE GENERAL SUPPORT COMPANIES THAT WERE AUTHORIZED AT THE NONDIVISIONAL LEVEL. THESE COMPANIES PROVIDED A REPAIR AND RETURN TO THE SUPPLY SYSTEM SERVICE. DEPOT MAINTENANCE WAS PROVIDED BY EITHER CONUS DEPOTS, COMMERCIAL FACILITIES OR THROUGH CROSS SERVICE AGREEMENTS.

THE TRANSITION FROM THE FOUR CATEGORY SYSTEM TO THE THREE LEVEL CONCEPT HAS REDISTRIBUTED THE RESPONSIBILITIES AND THE AUTHORIZATION TO ACCOMPLISH SPECIFIC AIRCRAFT MAINTENANCE FUNCTIONS FROM FOUR LEVELS TO THREE LEVELS. AVUM COMBINES THE UNIT RESPONSIBILITY TO ACCOMPLISH ORGANIZATIONAL MAINTENANCE WITH A CAPABILITY TO ACCOMPLISH A SPECIFIC AMOUNT OF DIRECT SUPPORT MAINTENANCE. PERCENTAGE WISE, AVUM INCLUDES ALL OF WHAT WAS PREVIOUSLY INDICATED AS ORGANIZATIONAL MAINTENANCE AND APPROXIMATELY 60 TO 70 PERCENT OF WHAT WAS IDENTIFIED AS DIRECT SUPPORT. AVIM COMBINES THE REMAINING DS, APPROXIMATELY 30 TO 40 PERCENT, WITH A PORTION, 5 APPROXIMATELY 40 PERCENT, OF WHAT WAS PREVIOUSLY KNOWN AS GENERAL SUPPORT. THEREFORE, AVIM IS MADE UP OF APPROXIMATELY 40 PERCENT OF DS AND 40 PERCENT OF GS MAINTENANCE. THE

REMAINDER OF GS, OR APPROXIMATEL: 60 PERCENT, HAS BEEN INTEGRATED INTO DEPOT LEVEL MAINTENANCE.

CHART 3 OFF

(TRANSLATION)

I WILL NOW DISCUSS IN DETAIL THE FUNCTIONS THAT ARE ASSOCIATED WITH EACH OF THE THREE LEVELS OF AIRCRAFT MAINTENANCE.

AND EQUIPPED TO PERFORM HIGH FREQUENCY, "ON-EQUIPMENT

MAINTENANCE TASKS REQUIRED TO REALIGN OR RETURN AIRCRAFT

TO A SERVICEABLE CONDITION. THE MAINTENANCE CAPABILITY OF

AVUM IS LIMITED BY THE AMOUNT AND COMPLEXITY OF GROUND

SUPPORT EQUIPMENT (GSE), FACILITIES REQUIRED, THE NUMBER OF

SPACES AND CRITICAL SKILLS OF PERSONNEL AVAILABLE, AND A

RANGE AND QUANTITY OF SPARE MODULES AND COMPONENTS WHICH WILL ALLOW THE UNIT TO MEET AIRMOBILITY REQUIREMENTS.

## (TRANSLATION)

TASKS TO BE PERFORMED BY AVUM UNITS ARE:

(1) PREVENTIVE MAINTENANCE, REPAIR, AND REPLACEMENT WHICH SUSTAINS A HIGH LEVEL OF AIRCRAFT OPERATIONAL READINESS. THESE TASKS INCLUDE PREFLIGHT, DAILY, INTERMEDIATE, PERIODIC, PHASED AND SPECIAL INSPECTIONS.

# (TRANSLATION)

(2) TO IDENTIFY CAUSES OF EQUIPMENT AND SYSTEM

MALFUNCTIONS USING APPLICABLE TECHNICAL MANUAL TROUBLESHOOTING

INSTRUCTIONS, BUILT IN TEST EQUIPMENT (BITE), AIRCRAFT

INSTRUMENTATION, AND TEST, MEASUREMENT AND DIAGNOSTIC

EQUIPMENT (TMDE).

- (3) TO REPLACE WORN OR DAMAGED MODULES AND COMPONENTS

  WHICH DO NOT REQUIRE COMPLEX ADJUSTMENTS OR SYSTEM ALIGNMENT.

  (TRANSLATION)
- (4) TO PERFORM OPERATIONAL AND CONTINUITY CHECKS AND MAKE MINOR REPAIRS TO THE ELECTRICAL SYSTEM.

### (TRANSLATION)

(5) TO INSPECT, SERVICE, AND MAKE OPERATIONAL CAPACITY AND PRESSURE CHECKS TO HYDRAULIC SYSTEMS.

# (TRANSLATION)

(6) TO PERFORM SERVICING, FUNCTIONAL ADJUSTMENTS, AND MINOR REPAIR OR REPLACEMENT ON FLIGHT CONTROLS, PROPULSION, POWER TRAIN, AND FUEL SYSTEMS.

## (TRANSLATION)

(7) TO ACCOMPLISH AIR FRAME REPAIR WHICH DOES NOT

REQUIRE EXTENSIVE DISASSEMBLY, JIGGING OR ALIGNMENT.

### (TRANSLATION)

(8) TO EVACUATE UNSERVICEABLE MODULES, COMPONENTS

AND END ITEMS BEYOND THE REPAIR CAPABILITY OF AVUM TO THE SUPPORTING AVIM.

## (TRANSLATION)

FOR ECONOMIC REASONS, AVIATION UNITS WHICH MAY HAVE
LESS THAN 10 AIRCRAFT ASSIGNED WILL NOT HAVE FULL AVUM
CAPABILITY. MAINTENANCE WILL BE PERFORMED THAT CAN BE
ACCOMPLISHED BY THE AIRCRAFT CREW CHIEF OR ASSIGNED
AIRCRAFT REPAİRMAN. IT WILL NORMALLY BE LIMITED TO;
PREVENTIVE MAINTENANCE, INSPECTIONS, AND SERVICING. AVUM
REPAIR FUNCTIONS WILL NORMALLY BE ACCOMPLISHED BY THE
SUPPORTING AVIATION INTERMEDIATE MAINTENANCE COMPANY.

(TRANSLATION)

CHART 4 OFF

PROVIDE MOBILE, RESPONSIVE, "ONE STOP" MAINTENANCE SUPPORT.

MAINTENANCE FUNCTIONS WHICH ARE NOT CONDUCIVE TO SUSTAINING

AIR MOBILITY WILL BE ASSIGNED TO DEPOT MAINTENANCE.

IN ADDITION TO AUTHORIZED AVIM LEVEL TASKS, AVIM IS

ALSO AUTHORIZED TO PERFORM ALL AVUM FUNCTIONS. REPAIR OF

EQUIPMENT FOR RETURN TO USER IS THE KEY AVIM MISSION WHICH

EMPHASIZES SUPPORT OF OPERATIONAL READINESS REQUIREMENTS.

### (TRANSLATION)

THE TASKS TO BE PERFORMED BY AVIM UNITS ARE:

(1) TO CONDUCT THE DIRECT EXCHANGE (DX) PROGRAM, FOR AVUM UNITS BY REPAIRING SELECTED ITEMS FOR RETURN TO STOCK WHEN SUCH REPAIRS CANNOT BE ACCOMPLISHED AT THE AVUM LEVEL.

(2) TO INSPECT, TROUBLESHOOT, TEST, DIAGNOSE, REPAIR, ADJUST, CALIBRATE AND ALIGN AIRCRAFT SYSTEM MODULES OR COMPONENTS. MODULE AND COMPONENT DISASSEMBLY AND REPAIR WILL SUPPORT THE DX PROGRAM AND WILL NORMALLY BE LIMITED TO TASKS REQUIRING CLEANING AND THE REPLACEMENT OF SEALS, FITTINGS AND ITEMS OF COMMON HARDWARE.

## (TRANSLATION)

(3) TO DETERMINE THE SERVICEABILITY OF SPECIFIED MODULES OR COMPONENTS REMOVED PRIOR TO THE EXPIRATION OF THE TIME BETWEEN OVERHAUL (TBO) OR FINITE LIFE.

# (TRANSLATION)

(4) TO REPAIR AIRFRAMES AND FABRICATE PARTS WITH AVAILABLE TOOLS AND TEST EQUIPMENT. UNSERVICEABLE,

REPAIRABLE MODULES, COMPONENTS AND END ITEMS WHICH ARE
BEYOND THE CAPABILITY OF AVIM TO REPAIR WILL BE EVACUATED
TO DEPOT MAINTENANCE.

# (TRANSLATION)

(5) TO PERFORM AIRCRAFT WEIGHT AND BALANCE INSPECTIONS AND OTHER SPECIAL INSPECTIONS WHICH EXCEED AVUM CAPABILITY.

## (TRANSLATION)

(6) TO PROVIDE QUICK RESPONSE MAINTENANCE SUPPORT,

INCLUDING AIRCRAFT RECOVERY AND AIR EVACUATION, ON-THE-JOB

TRAINING, AND TECHNICAL ASSISTANCE THROUGH THE USE OF MOBILE

MAINTENANCE CONTACT TEAMS.

# (TRANSLATION)

(7) AVIM UNITS MAY BE AUTHORIZED OPERATIONAL READINESS FLOAT AIRCRAFT.

(8) TO PROVIDE COLLECTION AND CLASSIFICATION SERVICES
FOR SERVICEABLE AND UNSERVICEABLE MATERIEL.

### (TRANSLATION)

(9) AND TO OPERATE A CANNIBALIZATION ACTIVITY.

## (TRANSLATION)

WE HAVE ESTABLISHED TWO LEVELS OF AVIM. THEY ARE

DIVISIONAL AND NON-DIVISIONAL. THE AVIM COMPANY ORGANIC

TO THE DIVISIONS SHALL PERFORM AVIM FUNCTIONS CONSISTENT

WITH AIR MOBILITY REQUIREMENTS AND CONSERVATION OF PERSONNEL

AND EQUIPMENT RESOURCES. THEREFORE, THE DEGREE OF

ACCOMPLISHMENT OF THE FUNCTIONS MAY BE LIMITED IN THE,

DIVISION AVIM UNIT. ADDITIONAL AVIM SUPPORT WILL BE PROVIDED

BY THE SUPPORTING NONDIVISIONAL AVIM UNIT WHICH CAN BE STAFFED

AND EQUIPPED TO ACCOMPLISH THE FULL RANGE OF AVIM FUNCTIONS.

CHART 6 ON DEPOT MAINTENANCE OF AIRCRAFT AND AIRCRAFT MODULES

AND COMPONENTS IS MANAGED BY THE NATIONAL MAINTENANCE

POINT. IT IS ACCOMPLISHED IN ORGANIC FACILITIES, BY

CONTRACT WITH COMMERCIAL FIRMS, OR THROUGH INTERSERVICE

AGREEMENTS WITH OTHER MILITARY SERVICES. DEPOT MAINTENANCE

INCLUDES THE FOLLOWING FUNCTIONS:

- (1) OVERHAUL
- (2) CONVERSIONS
- (3) MAJOR REPAIR
- (4) MODIFICATION
- (5) MANUFACTURE OF ITEMS NOT SUPPORTED BY THE SUPPLY SYSTEM
  - (6) COMPLETE PAINTING OF AIRCRAFT

(7) ANALYTICAL, SPECIAL AND NON-DESTRUCTIVE TESTING
AND INSPECTIONS IN SUPPORT OF AIRCRAFT, MODULES AND
COMPONENTS.

CHART 6 OFF

(TRANSLATION)

REPEAT CHART 1 ON THE TRANSITION TO THE THREE LEVEL AIRCRAFT MAINTENANCE CONCEPT HAS BROUGHT AIRCRAFT MAINTENANCE IN LINE WITH THE LATEST CONCEPTS OF COMBAT OPERATIONS. IT FMPHASIZES MAINTENANCE IN THE FORWARD UNITS THUS GENERATING A CAPABILITY FOR INCREASED OPERATIONAL AIRCRAFT ON A DAILY BASIS. IT PROVIDES INTERMEDIATE SUPPORT THAT INSTEAD OF SUPPORTING A SUPPLY SYSTEM, NOW TURNS UNSERVICEABLE AIRCRAFT OR : COMPONENTS AROUND AND RETURNS THEM TO THE USER. THE CONCEPT ALSO EXPEDITIOUSLY EVACUATES UNSERVICEABLES THAT ARE BEYOND THE CAPABILITY OF FIELD UNITS AND RETROGRADES THE ITEMS

DIRECTLY TO DEPOTS. THREE LEVEL AIRCRAFT MAINTENANCE

IS COMPATIBLE WITH COMBAT OPERATIONS, IS GEARED TO HANDLE

THE LATEST SOPHISTICATED AIRCRAFT SYSTEMS, INCLUDING

AVIONICS AND ARMAMENT, HAS BEEN INSTRUMENTAL IN REDUCING

COSTS THROUGH BETTER UTILIZATION OF PERSONNEL AND EQUIPMENT

AND IN GENERAL, PROVIDES THE ARMY WITH A REALISTIC MEANS

OF EFFICIENTLY SUPPORTING THE COMPLEX AIRCRAFT MAINTENANCE

REQUIREMENTS GENERATED BY TODAY'S AND TOMORROW'S FLEET OF

AIRCRAFT.

THAT CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

AIRCRAFT MAINTENANCE QUALITY CONTROL PROGRAM

CONSIDER TO BE A CORNERSTONE OF OUR AVIATION MAINTENANCE
PROGRAM. HELICOPTERS ARE VERY COMPLEX AIRCRAFT REQUIRING
COMPLEX REPAIR PROCEDURES. THEY HAVE LITTLE OR NO MARGIN
FOR ERROR IN MAINTAINING THEM. MAINTENANCE ERRORS ALMOST
ALWAYS RESULT IN SOME FORM OF INCIDENT OR ACCIDENT AND,
CONSEQUENTLY, INCOMPLETE MISSIONS, DAMAGED EQUIPMENT AND
PERSONNEL INJURIES.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON THERE ARE MANY WAYS TO REDUCE MAINTENANCE ERRORS, BUT

ONE OF THE BEST WAYS WE HAVE FOUND TO REDUCE MAINTENANCE

ERRORS AND IMPROVE THE QUALITY OF AIRCRAFT MAINTENANCE IS A

SYSTEM WE CALL THE QUALITY CONTROL PROGRAM. IT IS A

SYSTEM WHICH WILL REDUCE TIME, LABOR AND MATERIEL WASTE.

GOOD SAFETY CANNOT EXIST WITHOUT SOME FORM OF MAINTENANCE

QUALITY CONTROL. THE AIRCRAFT MAINTENANCE QUALITY CONTROL

PROGRAM IS AN ESSENTIAL COMPONENT OF THE US ARMY'S AIRCRAFT

MAINTENANCE SYSTEM.

### (TRANSLATION)

WE BELIEVE THIS ANALYSIS OF OUR QUALITY CONTROL PROGRAM
WILL BENEFIT YOU BY AFFORDING AN EXAMPLE OF ORGANIZING TO
INSURE THAT QUALITY CONTROL IS RECOGNIZED AND IMPLEMENTED
AS AN ESSENTIAL FEATURE OF THE OVERALL MAINTENANCE AND
MATERIEL MANAGEMENT SYSTEM. YOUR ANALYSIS MAY IDENTIFY A
SIMILAR NEED IN YOUR AVIATION PROGRAM, ALTHOUGH SOME
REVISION MIGHT BE NECESSARY. THIS PROGRAM WILL HELP INSURE
THAT YOUR MAINTENANCE IS PERFORMED TO THE PRESCRIBED STANDARDS

in heigen, den einen einen er er er en sam kernen er er er er

OF QUALITY AND EFFICIENCY WHICH ARE NECES; ARY FOR MISSION PERFORMANCE.

CHART 2 OFF

(TRANSLATION)

COMPONENTS. THEY ARE PERFORMANCE OF MAINTENANCE, PRODUCTION

CONTROL, AND QUALITY CONTROL. QUALITY CONTROL ACTIVITIES

COMPLEMENT THOSE OF PRODUCTION CONTROL, AND THEY CONSTITUTE

THE OVERALL FUNCTION OF MAINTENANCE MANAGEMENT. THE PROPER

BALANCE OF PRODUCTION CONTROL AND QUALITY CONTROL INSURES

THAT MAXIMUM PRODUCTIVITY IS ACHIEVED AND THAT THE WORK

CONFORMS WITH ACCEPTABLE STANDARDS OF QUALITY.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON WHAT IS QUALITY CONTROL? MOST PEOPLE FAMILIAR WITH

MAINTENANCE OPERATIONS WOULD SAY THAT IT IS SIMPLY THE

FUNCTION OF INSPECTING AIRCRAFT REPAIRS BEFORE, DURING,
OR AFTER THE MECHANIC PERFORMS THEM. THIS IS AN
IMPORTANT FEATURE OF THE PROGRAM, BUT OTHER ASPECTS
ARE EQUALLY IMPORTANT.

SEVERAL OF THESE IMPORTANT ASPECTS ARE:

- 1. ADVISING THE COMMANDER ON THE EFFECTIVENESS OF HIS QUALITY CONTROL PROGRAM.
- 2. INSURING THAT TEST, MEASUPING AND DIAGNOSTIC EQUIPMENT (TMDE) IS PROPERLY CALIBRATED.
- 3. MAINTAINING A TECHNICAL LIBRARY AND INSURING THAT
  MAINTENANCE PERSONNEL ARE FAMILIAR WITH APPROPRIATE TECHNICAL
  MANUALS.
  - 4. AND INSPECTING MAINTENANCE RECORDS AND DOCUMENTS.

THERE ARE MANY MORE FUNCTIONS IN THE QUALITY CONTROL.

PROGRAM WHICH WE CAN DISCUSS LATER IF YOU SO DESIRE.

CHART 4 OFF

(TRANSLATION)

UNIT MAINTENANCE ORGANIZATIONAL STRUCTURES WILL VARY

ACCORDING TO THE STRENGTH, MISSION, EQUIPMENT, AND LEVEL

WITHIN THE MAINTENANCE STRUCTURE. HOWEVER, ONE ORGANIZATION

WHICH EVERY AIRCRAFT MAINTENANCE UNIT HAS IS THE QUALITY

CONTROL SECTION.

### (TRANSLATION)

CHART 5 ON A TYPICAL MAINTENANCE COMPANY ORGANIZATION IS SHOWN

ON THIS CHART. THE QUALITY CONTROL STAFF FOR THIS OFFICF

WOULD BE SUPERVISED BY AN E-7 TECHNICAL INSPECTOR SUPERVISOR.

THE TECHNICAL INSPECTORS ARE ENLISTED GRADE E-6 AND THERE

WOULD BE AT LEAST ONE ASSIGNED FOR EACH TYPE AIRCRAFT THE

UNIT SUPPORTS AND ONE FOR EACH TYPE OF COMPONENT SYSTEM
SUPPORTED, FOR EXAMPLE, ONE TURBINE ENGINE TECHNICAL
INSPECTOR WOULD BE ASSIGNED FOR THAT COMPONENT SYSTEM.
THIS IS WHAT THE REST OF OUR AVIATION INTERMEDIATE MAINTENANCE
COMPANY LOOKS LIKE. IN A LATER BRIEFING, WE'LL DISCUSS THE
TRAINING OF OUR QUALITY CONTROL PERSONNEL.

CHART 5 OFF

(TRANSLATION)

GENTLEMEN, WE BELIEVE THAT A STRONG QUALITY CONTROL

PROGRAM IS ABSOLUTELY NECESSARY TO ADEQUATELY MAINTAIN THE

COMPLEX AIRCRAFT WE USE TODAY. THIS CONCLUDES MY BRIEFING.

ARE THERE ANY QUESTIONS?

### AVIATION GROUND SUPPORT EQUIPMENT

CHART 1 ON AVIATION GROUND SUPPORT EQUIPMENT (AGSE) IS THAT

EQUIPMENT REQUIRED TO ACCOMPLISH AIRCRAFT MAINTENANCE. THE

PROJECTED TRANSITION TO NEW, MORE SOPHISTICATED, AVIATION

SYSTEMS IN YOUR ARMY WILL RESULT IN A TREMENDOUS INCREASE

IN AGSE EQUIPMENT. PROPER MANAGEMENT OF THIS EQUIPMENT IS

EXTREMELY IMPORTANT TO INSURE SUPPORT SO THAT AIRCRAFT ARE

MAINTAINED AT A HIGH STATE OF OPERATIONAL READINESS.

CHART 1 OFF

(TRANSLATION)

AGSE INCLUDES ALL ITEMS OF TOOLS AND EQUIPMENT REQUIRED

TO MAINTAIN AERONATICAL SYSTEMS AND/OR SUBSYSTEMS OPERATIONAL.

AGSE IS DIVIDED INTO FIVE FUNCTIONAL SUB-AREAS:

# (TRANSLATION)

CHART 2 ON 1. GROUND POWER UNITS: THIS IS EQUIPMENT WHICH SUPPLIES ELECTRICAL POWER TO AN AIRCRAFT.

CHART 2 OFF

### (TRANSLATION)

CHART 3 ON 2. AIRCRAFT SERVICING: THIS IS EQUIPMENT TO REPLENISH

AIRCRAFT WITH PETROLEUM, OIL, LUBRICANTS, AMMUNITION,

OXYGEN AND OTHER CONSUMABLES. IT ALSO INCLUDES CLEANING,

DEICING AND PREHEATING EQUIPMENT.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON 3. TEST, MEASURE 1 ENT AND DIAGNOSTIC EQUIPMENT (TMDE):

THIS IS EQUIPMENT TO INSPECT AND TEST AIRCRAFT SYSTEMS.

CHART 4 OFF

(TRANSLATION)

CHART 5 ON 4. GROUND HANDLING EQUIPMENT: THIS IS EQUIPMENT TO

MOVE, JACK OR SECURE AIRCRAFT ON THE GROUND. IT ALSO,

INCLUDES HOISTS, SLINGS AND TRANSPORTERS TO MOVE AIRCRAFT

COMPONENTS.

CHART 5 OFF

CHART 6 ON 5. MAINTENANCE FACILITIES: THIS IS EQUIPMENT AND
STRUCTURES ASSOCIATED WITH AIRFIELD AND SHOP MAINTENANCE
OPEARTIONS SUCH AS HANGARS AND SHELTERS, TOOL KITS, SHOP
SETS, GENERATORS, COMPRESSORS, AND WORK PLATFORMS.

CHART 6 OFF

(TRANSLATION)

CHART 7 ON AVIATION COMMANDERS, MAINT_ANCE OFFICERS AND

MAINTENANCE PERSONNEL FREQUENTLY OVERLOOK THE SIGNIFICANCE

OF THEIR AVIATION GROUND SUPPORT EQUIPMENT, POOR AIRCRAFT

OPERA.IONAL READY RATES ARE TOO FREQUENTLY BLAMED ON THE

SUPPLY SYSTEM OR A SHORTAGE OF MAINTENANCE PERSONNEL. RARE

IS THE COMMANDER WHO CONSIDERS THE EFFECT OF AGSE ON HIS

MAINTENANCE OPERATIONS AND IMPLEMENTS AN ADEQUATE AGSE

OPERATION AND MAINTENANCE PROGRAM. WHEN AN ITEM OF AGSE

IS NOT AVAILABLE OR IT OPERATES IMPROPERLY, ALTERNATE AND

LESS EFFICIENT MEANS MUST BE SOUGHT TO ACCOMPLISH THE TASK FOR WHICH THAT ITEM WAS DESIGNED. NONAVAILABILITY OF AN AIRCRAFT TOWING VEHICLE RESULTS IN THE NECESSITY TO REMOVE AIRCRAFT REPAIRMEN FROM ASSIGNED MAINTENANCE JOBS EACH TIME AN AIRCRAFT MUST BE MOVED. ONLY ONE OF FOUR AUXILIARY POWER UNITS OPERATING IN A MAINTENANCE SUPPORT UNIT MAY RESULT IN LESS AIRCRAFT BECOMING OPERATIONAL ON A GIVEN DAY THAN POSSIBLE IF ALL FOUR WERE OPERATING. EXAMPLE AFTER EXAMPLE CAN BE CITED WHICH WILL SIMILARLY INDICATE THE IMPORTANCE OF PROPERLY MANAGING, OPERATING AND MAINTAINING AGSE.

CHART 7 OFF

(TRANSLATION)

CHART 8 ON THE IMPORTANCE OF AGSE BECOMES EVEN MORE APPARENT

WHEN WE REVIEW THE NUMBER OF AGSE ITEMS AND THEIR DOLLAR

VALUE IN THE US ARMY ASSAULT HELICOPTERS. THERE ARE OVER

180 LINE ITEMS OF ONE OR MORE IN QUANTITY, AT A COST EXCEEDING \$550,000. ATTACK HELICOPTER, MEDIUM LIFT HELICOPTER AND AVIATION SUPPORT MAINTENANCE UNITS WILL CONTAIN EVEN MORE ITEMS AT A MUCH GREATER DOLLAR VALUE.

CHART 8 OFF

(TRANSLATION)

THE NUMBER OF ITEMS, THEIR COST AND IMPORTANCE IN

MAINTAINING A HIGH AIRCRAFT OPERATIONAL READINESS RATE

MAKES MANAGEMENT OF AGSE A CRITICAL ITEM IN THE MANAGEMENT

OF AVIATION LOGISTICS. THE FOLLOWING DISCUSSES KEY AREAS

OF INTEREST IN US ARMY AGSE MANAGEMENT. ANALYSIS OF THESE

ITEMS WILL PROVIDE YOU POINTS FROM WHICH YOU MAY DEVELOP

AN ADEQUATE SYSTEM TO MAINTAIN AND OPERATE AGSE.

# (TRANSLATION)

CHART 9 ON ACCOUNTABILITY AND RESPONSIBILITY: IHERE IS NO

REPAIRMAN IN THE US ARMY DEDICATED SOLELY TO THE REPAIR

OF AGSE NOR IS THERE AN AGSE SECTION OR PLATOON IN ANY UNIT. INSTEAD, AGSE IS DECENTRALIZED TO THE APPROPRIATE SECTION OR PLATOON IN THE UNIT WHICH HAS A MISSION NEED FOR IT. THIS DECENTRALIZATION CAN RESULT IN A LOSS OF VISIBILITY OF THESE ASSETS AND CONSEQUENT PROBLEMS IN MAINTAINING ACCOUNTABILITY AND RESPONSIBILITY. HERE ARE SOME OF THE KEY METHODS WE USE TO INSURE ACCOUNTABILITY AND RESPONSIBILITY.

## (TRANSLATION)

A. HAND RECEIPTS ARE USED TO INSURE ACCOUNTABILITY

AND RESPONSIBILITY FOR THIS EQUIPMENT IS PASSED FROM THE

SUPPLY OFFICER DOWN TO THE INDIVIDUAL RESPONSIBLE FOR THIS

EQUIPMENT. WHEN IT IS NOT CLEAR WHICH SECTION OR INDIVIDUAL

SHOULD BE ACCOUNTABLE, THE COMMANDER MAKES THE DETERMINATION.

B. PAINT AND MARKING TOOLS ARE USED TO MARK EACH ITEM, INCLUDING HAND TOOLS, WITH AN IDENTIFYING MARK TO INDICATE WHO IS ACCOUNTABLE AND RESPONSIBLE FOR EACH ITEM.

### (TRANSLATION)

C. INVENTORIES ARE CONDUCTED ON A SCHEDULED BASIS,

DAILY, MONTHLY AND QUARTERLY TO INSURE ACCOUNTABILITY.

INDIVIDUALS MISSING TOOLS MAY BE REQUIRED TO PAY FOR THEM.

A DAILY INVENTORY ALSO HELPS TO ELIMINATE FOREIGN OBJECT

DAMAGE AFTER MAINTENANCE ON THE AIRCRAFT.

CHART 9 OFF

(TRANSLATION)

CHART 10 ON MAINTENANCE: AS MENTIONED ABOVE, THERE IS NO SINGLE

REPAIRMAN FOR AGSE, DESIGNATED BY ANY ARMY TABLE OF

ORGANIZATION AND EQUIPMENT. AIRCRAFT AND COMPONENT REPAIRMEN

MOST FREQUENTLY PERFORM DAILY PREVENTIVE MAINTENANCE SUCH

AS CLEANING AND LUBRICATION AS WELL AS LIMITED ORGANIZATIONAL

REPAIR. ORGANIZATIONAL REPAIR AND HIGHER LEVELS OF REPAIR

OF AGSE ARE PERFORMED BY THE OCCUPATIONAL SPECIALTIES SHOWN

ON THIS CHART.

## (TRANSLATION)

- A. ELECTRICAL DEVICES REPAIRMAN -- MOS 35B.
- B. CALIBRATION 'PECIALIST -- MOS 35H.
- C. GENERAL PURPOSE POWER REPAIRMAN -- MOS 52B.
- D. POWER GENERATOR EQUIPMENT REPAIRMAN -- MOS 52D.
- E. ENGINE EQUIPMENT MECHANIC -- MOS 63B.
- F. AUTOMOBILE REPAIRMAN -- MOS 63H.

# (TRANSLATION)

MAINTENANCE OF THIS EQUIPMENT IS THE GREATEST PROBLEM

IN THE MANAGEMENT OF AGSE. AN ACTION TO CREATE AN OCCUPATIONAL

SPECIALTY FOR THE MAINTENANCE OF AGSE HAS BEEN INITIATED

IN THE US ARMY, BUT IS TEMPORARILY BEING HELD IN ABEYANCE

BECAUSE OF A LACK OF APPROPRIATE MAN-HOUR DATA TO SUPPORT

IT. WE BELIEVE A REPAIRMAN TRAINED AND RESPONSIBLE FOR

THE MAINTENANCE OF THIS EQUIPMENT WOULD BE VERY BENEFICIAL.

CHART 10 OFF

(TRANSLATION)

CHART 11 ON TRAINING: NO FORMAL SCHOOL TRAINING IS CONDUCTED ON

THE MAINTENANCE OF THIS EQUIPMENT AND VERY LITTLE SCHOOL

TRAINING IS CONDUCTED ON ITS PROPER USE. WE DO NOT BELIEVE

THAT THIS IS THE BEST SOLUTION. THE CREATION OF A TRAINED

AGSE REPAIRMAN, AS MENTIONED, WOULD CAUSE US TO CONDUCT

A FORMAL AGSE MAINTENANCE COURSE OF INSTRUCTION. IN THE

MEANTIME, OUR PERSONNEL LEARN THE USE AND MAINTENANCE

OF THIS EQUIPMENT ON THE JOB.

CHART 12 ON REPAIR PARTS: UNFORTUNATELY, MANY OF OUR AGSE ITEMS

REQUIRING REPAIR PARTS WERE LIMITED PRODUCTION ITEMS,

BOUGHT DIRECTLY FROM MANUFACTURERS TO SUPPORT OUR RAPIDLY

INCREASING AVIATION FORCE DURING THE WAR IN VIETNAM. LOGISTICS

SUPPORT PLANNING WAS OFTEN INCOMPLETE AND WE ARE FREQUENTLY

EXPERIENCING DIFFICULTY IN ACQUIRING ALL NECESSARY REPAIR

PARTS. ROKA LOGISTICIANS SHOULD PLACE PARTICULAR EMPHASIS

ON REPAIR PARTS SUPPORT FOR AGSE.

CHART 12 OFF (TRANSLATION)

CHART 13 ON PUBLICATIONS: SIMILARLY EFFECTED BY OUR ACQUISITION

PROCEDURES, AS WERE THE REPAIR PARTS, OPERATION AND

MAINTENANCE MAGUALS FOR OUR AGSE ARE IN A MIX OF COMMERCIAL

AND MILITARY PUBLICATIONS. MANY ARE NOT AVAILABLE THROUGH

PUBLICATIONS CHANNELS AND MUST BE OBTAINED BY COPYING THOSE

ALL INDIVIDUALS MUST LEARN THE OPERATION AND MAINTENANCE
OF THIS EQUIPMENT ON THE JOB.

CHART 13 OFF

(TRANSLATION)

GENTLEMEN, THIS CONCLUDES MY PRESENTATION. ARE THERE ANY QUESTIONS?

### PHASED MAINTENANCE (PROJECT INSPECT)

THE TITLE "PROJECT INSPECT" TO IMPROVE THE EFFICIENCY OF
SCHEDULED INSPECTIONS AND MAINTENANCE FOR ARMY AIRCRAFT.

FROM THIS EFFORT, A SYSTEM HAS EVOLVED THAT REPLACED THE
STANDARD SCHEDULED PREVENTIVE MAINTENANCE SYSTEM WITH A
PHASED MAINTENANCE SYSTEM BASED UPON CONDITION.

CHART 1 OFF

## (TRANSLATION)

CHART 2 ON TESTING OF THE SYSTEM WAS ACCOMPLISHED DURING THE

AUGUST 1974 - NOVEMBER 1975 TIME PERIOD. WE EXPERIENCED

IMPROVEMENT IN THE AREAS OF OPERATIONAL READINESS, MAINTENANCE

MANHOURS PER FLYING HOUR AND SUPPLY REQUIREMENTS. DUE TO THE

SUCCESS WE EXPERIENCED IN THIS TEST THE PROGRAM IS BEING

APPLIED TO ALL FIRST LINE ARMY AIRCRAFT. THE UH-1, AH-1

AND CH-47 HAVE BEEN BROUGHT UNDER PHASED MAINTENANCE

AND ARE OPERATING SUCCESSFULLY.

CHART 2 OFF

#### (TRANSLATION)

CHART 3 ON THESE TWO OBJECTIVES WERE WHAT WE WERE TRYING TO

ACCOMPLISH. OUR INFORMATION FROM THE FIELD WAS CONFIRMED

WHAT WE FOUND IN OUR STUDY AND THAT IS THAT THE PREVENTATIVE

MAINTENANCE INSPECTIONS CONSTITUTE A FORM OF "OVERKILL" TO

THE INSPECTION PROBLEM.

FOR EXAMPLE, WHY INSPECT THE HUEY ENGINE DECK MOUNTS

FOR WEAR AND SECURITY AT THE DAILY, INTERMEDIATE AND

PERIODIC AS REQUIRED IN THE PREVENTATIVE MAINTENANCE

SERVICES (PMS). IF IT'S INSPECTED DURING THE DAILY, WHY

INSPECT IT DURING THE INTERMEDIATE OR PERIODIC? IF YOU NEVER FIND A FITTING WORN OR LOOSE AT AN INTERMEDIATE OR PERIODIC, THEN WHY INSPECT IT AT A DAILY?

WE KNOW FROM HISTORICAL FAILURE DATA WHEN IT WILL

BECOME WORN OR LOOSE, SO WHY NOT ONLY INSPECT IT ONCE OR

TWICE BEFORE THAT TIME PERIOD. WE FOUND THAT KEEPING OUR

"HANDS OFF" THE AIRCRAFT WILL GIVE US THE BENEFITS ON

THIS CHART. THIS IS THE PROCEDURE THE AIRLINES USE AND

WE BELIEVE THAT'S THE TIME TO INSPECT, NOT BEFORE.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON THESE WERE THE TWO SYSTEMS THAT WERE IN THE TEST

PROGRAM. THE TOP ONE WAS THE INSPECTION SYSTEM BEING TESTED

WHILE THE BOTTOM ONE WAS THE STANDARD ARMY SYSTEM (PMS)

IN BEING AT THE TIME OF THE TEST.

IN THE TOP SYSTEM A PORTION OF THE AIRCRAFT WAS INSPECTED EVERY ONE HUNDRED HOURS. EVERY ITEM ON THE AIRCRAFT THAT REQUIRED IT WAS INSPECTED AT LEAST ONCE DURING THE EIGHT HUNDRED HOUR CYCLE, AFTER WHICH THE CYCLE IS REPEATED. THE TIME BETWEEN INSPECTIONS IS CALLED A PHASE.

## (TRANSLATION)

THESE PHASES AND CYCLES ARE DEVELOPED BY USING HISTORICAL DATA FROM THE FIELD.

THE INSPECTION SCHEMES CAN BE DIFFERENT FOR EACH
AIRCRAFT SYSTEM, DEPENDING ON THE FAILURE DATA FROM THE
FIELD.

AS CAN BE SEEN, THE SCHEDULED INSPECTIONS HAVE BEEN REDUCED CONSIDERABLY, PRIMARILY BY ELIMINATING THE INTERMEDIATE INSPECTIONS.

(TRANSLATION)

CHART 4 OFF

CHART 5 ON NOW, LET'S TURN TO THE FIELD TEST RESULTS WHERE WE

USED ACTUAL OPERATIONAL UNITS TO COMPARE PHASED INSPECTIONS

WITH OUR PREVENTIVE MAINTENANCE INSPECTION SYSTEM, WHICH

WAS THE STANDARD SYSTEM AT THE TIME OF THE TEST. I WILL

ADDRESS THREE AREAS, OPERATIONS, MAINTENANCE, AND SUPPLY,

AND SHOW FROM TEST RESULTS THE BENEFITS DERIVED FROM PHASED

MAINTENANCE.

CHART 5 OFF

(TRANSLATION)

CHART 6 ON IN THE OPERATIONS AREA.

THE FIRST IS MISSION RELIABILITY, WHICH MEASURES BOTH PRE-FLIGHT AND IN-FLIGHT ABORTS. THE FIELD TEST SHOWED THAT THERE WAS NO CHANGE IN MISSION OR FLIGHT RELIABILITY FOR AIRCRAFT UNDER PHASED INSPECTIONS WHEN COMPARED WITH AN AIRCRAFT USING THE STANDARD PMD, PMI AND PMP INSPECTIONS.

**CTRANSLATION** 

THIS WAS IMPORTANT TO US BECAUSE WE WANTED TO BE SURE
THAT THE CHANGE IN INSPECTION PROCEDURES DID NOT CAUSE THE
AIRCRAFT TO BE NON-MISSION READY OR HAVE AN IN-FLIGHT ABORT.
SIMPLY STATED, OUR FIELD TEST SHOWED THAT PHASED INSPECTIONS
DO NOT ADVERSELY AFFECT THE RELIABILITY AND SAFETY OF THE
AIRCRAFT. TEST GROUPS, ON THIS AND FOLLOWING CHARTS,
REFERS TO THE AIRCRAFT WHICH PERFORMED THE PHASED INSPECTIONS.
CONTROL GROUP REFERS TO THOSE IN THE TEST WHICH CONTINUED TO
USE THE STANDARD, PREVENTIVE MAINTENANCE INSPECTIONS.

CHART 6 OFF

(TRANSLATION)

CHART 7 ON IN THE MAINTENANCE AREA.

OUR ONE GOAL TO REDUCE INSPECTION HOURS WAS CLEARLY
MET. DAILY INSPECTIONS REQUIRED ABOUT THE SAME LENGTH OF

TIME TO DO UNDER PHASED INSPECTION AS BY THE STANDARD PREVENTATIVE MAINTENANCE CONCEPT.

(TRANSLATION)

THERE COULD BE NO COMPARISON OF THE INTERMEDIATE

INSPECTIONS BECAUSE THEY ARE ELIMINATED UNDER PHASED INSPECTION.

THERE WAS A CONSIDERABLE REDUCTION IN MAN-HOURS IN
PERFORMING 100 HOUR PHASED INSPECTIONS WHEN COMPARED WITH
100 HOUR PERIODIC INSPECTIONS. WHEN WE COMBINED ALL THESE
SCHEDULED INSPECTIONS AND CALLED THE TOTAL, SCHEDULED
MAINTENANCE, WE FOUND THAT SCHEDULED MAINTENANCE IN THE
PHASED INSPECTION CONCEPT CONSUMED APPROXIMATELY 26.5% LESS
MAN-HOURS TO PERFORM, THAN THE SCHEDULED MAINTENANCE UNDER
OUR STANDARD INSPECTION CONCEPT.

CHART 7 OFF

CHART 3 ON THIS IS A COMPARISON OF THE UH-1H PROJECT INSPECT V.S.

THE STANDARD SYSTEM. YOU CAN SEE THAT THE FREQUENCY OF

INSPECTION HAS DROPPED DRASTICALLY. THERE HAS ALSO BEEN A

DROP IN THE MANHOURS REQUIRED FROM 1424 HOURS TO 470 HOURS.

CHART 8 OFF

(TRANSLATION)

CHART 9 ON THIS COMPARISON OF THE CH-47 INSPECTIONS SHOWS A

REDUCTION ALTHOUGH NOT AS GREAT AS THAT OF THE UH-1H.

THE NUMBER OF INSPECTIONS REQUIRED HAS BEEN CUT IN HALF

AND THE MANHOUR REQUIREMENT REDUCED FROM 1100 TO 600 HOURS.

CHART 9 OFF

(TRANSLATION)

CHART 10 ON NOW IN THE SUPPLY AREA.

WE ALL KNOW THAT AIRCRAFT CAN EAT PARTS JUST SITTING
ON THE GROUND IF YOU CONTINUALLY INSPECT THEM, JUST

1

OPENING THE COVERS FOR INSPECTIONS CAUSES WEAR AND CONSUMES PARTS.

THE AIRCRAFT USING PHASED INSPECTIONS CONSUMED FAR
LESS PARTS, OF LESS THAN \$200 VALUE, THAN UNITS USING
THE STANDARD INSPECTION SYSTEM. THESE ARE COMMON HARDWARE
PARTS SUCH AS NUTS, NUT PLATES, BOLTS, SEALS, LATCHES, ETC.

#### (TRANSLATION)

SIMILAR SAVINGS WERE FOUND ON AIRCRAFT USING PHASED INSPECTIONS FOR PARTS THAT COST MORE THAN \$200.

THE TEST RESULTS ALSO SHOWED THAT AFTER 18,000 FLYING HOURS ON AIRCRAFT USING PHASED INSPECTIONS AND OVER 18,000 FLYING HOURS ON AIRCRAFT USING THE STANDARD INSPECTIONS THAT THE AIRCRAFT USING PHASED INSPECTIONS WERE DOWN FOR SUPPLY

40% LESS THAN AIRCRAFT USING THE STANDARD DAILY,
INTERMEDIATE AND PERIODIC INSPECTIONS.

CHART 10 OFF

(TRANSLATION)

CHART 11 ON THIS CHART SHOWS THE DIVISION OF THE UH-1 AIRCRAFT INTO

AREAS. THIS BREAKDOWN WILL PROVIDE YOU THE FOLLOWING

ADVANTAGES:

AREAS ARE INSPECTED SYSTEMATICALLY WITHOUT HAVING THE MECHANIC WASTING TIME AND MOTION BY CLIMBING UP AND DOWN AND RETRACING HIS STEPS.

## - (TRANSLATION)

2. DIFFERENT INSPECTION AREAS CAN BE GIVEN TO

DIFFERENT MECHANICS WITH THE ASSURANCE THAT THESE AREAS

WILL BE COMPLETELY INSPECTED WITH NO DUPLICATION OF EFFORT.

3. IF A MECHANIC IS NEW AND RELATIVELY INEXPERIENCED,
HE CAN BECOME PROFICIENT IN ONE OR MORE AREAS IN CONSIDERABLY
LESS TIME THAN HE CAN LEARN THE ENTIRE AIRCRAFT.

THE BREAKDOWN OF THE AREAS IS DEPENDENT UPON THE COMPLEXITY OF THE AIRCRAFT. FOR INSTANCE THE UH-1 IS DIVIDED INTO TWENTY-ONE INSPECTION AREAS WHILE THE CH-47 HAS THIRTY AREAS.

CHART 11 OFF

(TRANSLATION)

CHART 12 ON THESE ARE THE BENEFITS WE HAVE DERIVED ON THE

AIRCRAFT TO WHICH THE PHASED MAINTENANCE CONCEPT HAS BEEN

APPLIED. NATURALLY THE HIGHER THE FLYING HOUR PROGRAM THE

GREATER THE BENEFITS THAT WILL BE DERIVED. AS I INDICATED,

EARLIER THIS SYSTEM HAS BEEN APPLIED TO THE UH-1H, AH-1G AND

CH-47C AIRCRAFT. ALL PUBLICATIONS HAVE BEEN CHANGED AND

THE SYSTEM IS WELL ESTABLISHED.

YOU CAN ADOPT THIS SYSTEM ON THESE AIRCRAFT WITH A MINIMUM OF DISRUPTION AND A MAXIMUM OF BENEFITS.

IMPLEMENTATION OF PHASED MAINTENANCE ON YOUR 500 M-D AIRCRAFT WOULD INVOLVE AN ENGINEERING PROCESS TO BRING THE INSPECTION SYSTEM IN LINE WITH THE PHASED MAINTENANCE CONCEPT.

GENTLEMEN, THAT CONCLUDES BY BRIEFING. ARE THERE ANY QUESTIONS?

CHART 12 OFF

ARMY OIL ANALYSIS PROGRAM (AOAP) SCRIPT

CHART 1 ON

PROGRAM (AOAP). IN ORDER THAT YOU MAY UNDERSTAND JUST
WHAT OIL ANALYSIS DOES FOR US, I WOULD LIKE TO DRAW
UPON AN ANALOGY RELATING OIL ANALYSIS TO BLOOD ANALYSIS.

#### (TRANSLATION)

IT HAS BEEN STANDARD PRACTICE FOR YEARS FOR A

CHART 1 OFF

CHART 2 ON

DOCTOR TO TAKE A SAMPLE OF A PATIENT'S BLOOD AND

THROUGH AN ANALYSIS OF THE PROTEINS, SALTS, SUGARS,

AND WASTES, GET AN EXCELLENT PICTURE OF THAT INDIVIDUAL'S

HEALTH. BASED ON THIS ANALYSIS, HE CAN TAKE PREVENTIVE

MEASURES TO CORRECT A POTENTIALLY SERIOUS CONDITION.

IN COMPARISON, THIS IS PRECISELY HOW THE ARMY OIL

ANALYSIS PROGRAM WORKS.

#### (TRANSLATION)

OIL ANALYSIS IS ESSENTIALLY A MAINTENANCE TOOL USED FOR DIAGNOSING THE INTERNAL CONDITION OF ENGINES, TRANS-MISSIONS, GEARBOXES AND HYDRAULIC SYSTEMS. METAL PARTICLES OF MICROSCOPIC SIZE ARE PRODUCED BY THE FRICTION OF MOVING MECHANICAL PARTS. THEY ENTER THE OIL STREAM AND ARE UNIFORMLY DISPERSED AND SUSPENDED THROUGHOUT THE LUBRICATING OIL SYSTEM, WE ANALYZE OIL SAMPLES TAKEN FROM THESE SYSTEMS AT SPECIFIC TIME INTERVALS. ABNORMAL WEAR OF PARTS CAN BE DETECTED BY ABNORMALLY HIGH. LEAR METAL CONCENTRATIONS.

(TRANSLATION)

CHART 2 OFF

CHART 3 ON

JUST AS CONTAMINATION WILL RUIN A BLOOD SAMPLE,

CONTAMINATION WILL ALSO RUIN AN OIL ANALYSIS SAMPLE.

WE HAVE TWO METHODS OF OBTAINING OIL SAMPLES THAT IF

PROPERLY PERFORMED WILL ELIMINATE ANY POSSIBILITY OF

CONTAMINATION.

#### (TRANSLATION)

USE OF THE TUBING METHOD THROUGH THE FILLER CAP

IS THE PREFERRED METHOD OF OBTAINING THE OIL SAMPLES.

FOR THE SAKE OF BREVITY, I WILL NOT GO INTO ALL THE

CAUTIONS AND PROCEDURES TO BE OBSERVED IN TAKING THE

OIL SAMPLE BY THIS METHOD. THE PRIMARY OBJECT IS,

TO TAKE THE SAMPLE FROM AS NEAR THE CENTER OF THE

TANK AS POSSIBLE TO AVOID CONTAMINATION BY FLOATING

OR SETTLED CONTAMINANTS.

CHART 3 OFF

CHART 4 ON

USED, THE OIL SAMPLE MUST BE OBTAINED FROM THE DRAIN

PLUG. THIS CHART SHOWS A LOCALLY MANUFACTURED DRAIN

SAMPLE KIT WHICH IS VERY EFFECTIVE IN THE TAKING OF

THE SAMPLE. AGAIN CARE IN THE TAKING OF THE SAMPLE TO

PREVENT CONTAMINATION MUST BE STRESSED.

CHART 4 OFF

(TRANSLATION)

CHART 5 ON

ONCE THE OIL SAMPLE IS OBTAINED IT IS SENT TO

THE LABORATORY FOR ANALYSIS. AS SOON AS THE SAMPLE

IS RECEIVED AT THE LABORATORY IT IS SUBJECTED TO

ANALYSIS BY A SPECTROMETER. THE SPECTROMETER PROVIDES

A COUNT IN PARTS PER MILLION OF THE METALIC ELEMENTS

PRESENT. IT IS POSSIBLE TO DETECT 20 DIFFERENT

THE SPECTROMETRIC REPORT, THE HISTORY OF THE ITEM FROM
THE LABORATORY FILES AND EVALUATION GUIDELINES MAKES
AN EVALUATION OF THE OIL SAMPLE AND A RECOMMENDATION.
AS LONG AS THE SAMPLE DOES NOT SHOW A POSSIBLE
PROBLEM, ALL FILES ARE UPDATED AND THE AIRCRAFT CAN
CONTINUE FLYING.

CHART 5 OFF

#### (TRANSLATION)

CHART 6 ON

IN THE EVENT A POSSIBLE FAILURE IS INDICATED BY THE EVALUATION, THE LABORATORY FORWARDS A RECOMMENDED GROUNDING AND REMOVAL ACTION BY MESSAGE. IN MANY INSTANCES A TEARDOWN AND OVERHAUL ANALYSIS IS REQUESTED.

UPDATE THE FILES AND VERIFY THE ACCURACY OF THE EVALUATION.

CHART 6 OFF

(TRANSLATION)

CHART 7 ON THIS CHART IS A SUMMARY OF GUR FY 77 EXPERIENCE

WITH THE AOAP ON FOUR AIRCRAFT. YOU WILL NOTICE THAT

THE COMPUTATIONS FOR THE TRANSMISSIONS CONSIDER THAT THE

AIRCRAFT WOULD HAVE BEEN LOST HAD THE TRANSMISSIONS NOT

BEEN REMOVED. NOT ONLY DID WE AVOID THE LOSS OF LARGE

SUMS OF MONEY; PROBABLY, THE LIFE OF ONE OR MORE CREWMEMBERS

WAS SAVED.

## (TRANSLATION)

OUR EXPERIENCE WITH THE AOAP HAS SHOWN A COST

AVOIDANCE TO PROGRAM COST RATIO OF 20 TO 1. I UNDERSTAND

THAT YOU ARE NOW USING THIS PROGRAM; HOWEVER, DUE TO ITS

IMPORTANCE WE FEEL THAT TOO MUCH EMPHASIS CANNOT BE PLACED UPON IT AND ITS BENEFITS.

# (TRANSLATION)

GENTLEMEN, THAT CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS.

CHART 7 OFF

### FORWARD ARMING AND REFUELING POINT

CHART 1 ON ON MONDAY OR TUESDAY, YOU WILL RECALL REVIEWING A SCENARIO WHICH POINTED OUT THE THREAT YOUR COUNTRY FACES AND THE KEY ROLE YOUR AVIATION ASSETS MAY PLAY IN COUNTERACTING THAT THREAT. YOUR ATTACK AND SCOUT HELICOPTERS WILL UNDOUBTEDLY BE VITAL IN STOPPING ANY ENEMY ARMOR THRUST. ONE WAY TO INCREASE THE COMBAT EFFECTIVENESS OF YOUR ANTI-ARMOR AIRCRAFT IS TO REARM AND REFUEL THEM AS CLOSE TO THE BATTLE AS POSSIBLE AND AS QUICKLY AS POSSIBLE. WE HAVE DEVELOPED A CONCEPT WE CALL THE FORWARD ARMING AND REFUELING POINT (FARP) TO DO JUST THAT.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON THE PURPOSE OF THE FARP IS TO INCREASE AIRCRAFT TIME

ON-STATION BY REDUCTEG TURNAROUND TIME TO REFUEL AND REARM.

THE FARP CONCEPT COULD PROVIDE YOU A MORE EFFECTIVE ATTACK.

AND SCOUT HELICOPTER COMBAT CAPABILITY.

CHART 2 OFF

(TRANSLATION)

CHART 3 ON SPECIFICALLY, THE FARP WILL PERMIT AT LEAST A MIX OF FIVE ATTACK AND THREE SCOUT HELICOPTERS TO SIMULTANEOUSLY, RAPIDLY REARM AND REFUEL, WHICH PERMITS THESE UNITS TO BRING MAXIMUM PRESSURE TO BEAR ON THE ENEMY BY REDUCING TURNAROUND TIME THUS OPTIMIZING AVAILABLE FIREPOWER THROUGH INCREASED TIME ON STATION. THE FARP CONCEPT REQUIRES THAT THE ATTACK AND SCOUT HELICOPTER TEAMS BE ABLE TO MANEUVER INTO AND OUT OF THE FARP IN LESS THAN 10 MINUTES PER TEAM. EQUIPMENT IS BEING DEVELOPED TO ACHIEVE THIS GOAL. CURRENTLY, REFUELING CAN BE DONE IN ABOUT 5 MINUTES AND REARMING IN ABOUT 20 TO 30 MINUTES.

CHART 3 OFF

CHART 4 ON IDEALLY, THE FARP SHOULD BE LOCATED APPROXIMATELY

17 TO 25 KILOMETERS FROM THE FORWARD EDGE OF THE MAIN
BATTLE AREA (FEBA) OR LINE-OF-CONTACT. IT IS ESTABLISHED
ON A MISSION BASIS NEAR THE FORWARD FIELD TRAINS OF THE
HIGHER SUPPORT HEADQUARTERS - THE BATTALION, BRIGADE OR
DIVISION. IT AND A BACK-UP LOCATION SHOULD BE AVAILABLE
FOR USE 24 HOURS A DAY TO PROVIDE REFUELING AND REARMING
SUPPORT.

CHART 4 OFF

(TRANSLATION)

CHART 5 ON THE FOLLOWING SHOULD BE CONSIDERED WHEN ESTABLISHING

A FARP:

- A. DISTANCE TO, AND THE STABILITY OF THE FEBA.
- B. REQUIRED TIME ON-STATION.
- C. SECURITY REQUIREMENTS FOR THE FARP.

- D. ENEMY ABILITY TO DESTROY THE FARP WITH INDIRECT FIRE.
- E. AVAILABILITY OF ADEQUATE ROAD NETWORKS.
- F. DISTANCE BETWEEN THE FARP AND THE NEARFST CLASS III

  (FUEL) AND CLASS V (AMMO) SUPPLY POINTS.
  - G. COMMAND AND CONTROL REQUIREMENTS.
  - H. PROXIMITY TO THE MAIN SUPPLY ROUTE (MSR).
- I. COORDINATION WITH THE LOG! CAL EFFORT OF HIGHER UNITS.

CHART 5 OFF

(TRANSLATION)

CHART 6 ON IT IS INTENDED THAT THE FARP WILL BE ESTABLISHED USING SURFACE TRANSPORTATION, ALTHOUGH IT MAY BE ESTABLISHED, UNDER CERTAIN SITUATIONS BY AIR TRANSPORT.

CHART 6 OFF

CHART 7 ON THE FARP SHOULD BE LOCATED WHERE EQUIPMENT AND HELICOPTERS CAN BE HIDDEN FROM AFRIA. LETECTION BY NATURAL OR MAN-MADE CAMOUFLAGE. THE USE OF TREE LINES AND WOODED AREAS WHERE VEGETATION IS THICK, GOOD DRAINAGE EXISTS AND THERE IS ADEQUATE ROOM FOR TACTICAL DISPERSION, SHOULD BE OF PRIMARY IMPORTANCE. WHEN SURFACE TRANSPORTATION IS TO BE USED, THE FARP MUST BE LOCATED WHERE THERE ARE GOOD INTERSECTING ROAD NETWORKS AND HARD LAND FOR EASY GROUND MOVEMENT. NIGHT OPERATION CAPABILITY SHOULD ALSO BE CONSIDERED. THE FARP LOCATION SHOULD PROVIDE MASKING FROM RADAR DETECTION FOR THE LOCATION AS WELL AS THE AIR AND GROUND ROUTES INTO AND OUT OF IT. WE BELIEVE THE FARP WILL HAVE TO BE MOVED APPROXIMATELY EVERY 3 HOURS

TO AVOID ENEMY TARGETING. FORTUNATELY, YOUR TACTICAL. SITUATION AND TERRAIN SHOULD ALLOW YOU TO PRE-PLAN AND PREPARE FARP LOCATIONS FOR POSSIBLE COMBAT USE SHOULD YOU DECIDE TO USE THIS CONCEPT.

CHART 7 OFF

(TRANSLATION)

RETURN CHART 1 ON GENTLEMEN, I HAVE CHARTS WITH ME WHICH

DEPICT THE PERSONNEL AND EQUIPMENT ASSETS CURRENTLY AVAILABLE

IN OUR UNITS FOR FARP OPERATIONS AND OUR PROJECTED COMBAT

AMMUNITION AND FUEL RESUPPLY REQUIREMENTS. WE CAN USE

THEM IN OUR DISCUSSION AS YOU DESIRE. THIS CONCLUDES MY

BRIEFING. ARE THERE ANY QUESTIONS?

CHART 1 OFF

## TRAINING DEVELOPMENT PHILOSOPHY

CHART 1 ON DURING THE NEXT PORTION OF OUR WORKSHOPS, WE'RE GOING

TO TAKE A LOOK AT THE WAY "E DEVELOP OUR TRAINING AND THEN

WE'LL REVIEW TWO OF OUR COURSES OF INSTRUCTION AND THE

REASONS WHY WE THINK THEY ARE OF PARTICULAR IMPORTANCE TO

YOU.

NOW, LET'S TALK ABOUT TRAINING DEVELOPMENTS. WE ONLY
WANT TO BRIEFLY ACQUAINT YOU WITH IT SINCE THE TRAINING
WORKSHOP IS STUDYING THIS SUBJECT IN DETAIL. WE KNOW YOU
ARE INTERESTED IN THE TRAINING OF YOUR LOGISTICAL PERSONNEL
AND THEREFORE WE WANTED YOU TO KNOW OF THIS SYSTEM. SINCE
THIS BRIEFING WILL ONLY COVER A LIMITED PORTION OF A VERY
COMPLEX SUBJECT, WE ASK THAT YOU CONTACT YOUR FELLOW
OFFICERS WHO HAVE ATTENDED THE TRAINING WORKSHOP IF YOU

DESIRE MORE DETAILED INFORMATION BEYOND THIS BRIEFING
AND THE ISSUE PAPER YOU RECEIVED.

CHART 1 CFF

(TRANSLATION:

CHART 2 ON OUR DEVELOPMENT OF TRAINING IS NOW ACHIEVED THROUGH A

SYSTEM WE CALL THE INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD)

MODEL. THE ISD MODEL IS THE TOTAL PROCESS FROM THE

IDENTIFICATION OF A TRAINING NEED TO THE END RESULT, A

TRAINED SOLDIER. THE ISD MODEL CONTAINS FIVE PHASES. THEY

ARE ANALYSIS, DESIGN, DEVELOPMENT, IMPLEMENTATION AND

CONTROL.

THE ANALYSIS PHASE BEGINS WITH THE IDENTIFICATION OF
THE TRAINING NEED. THEN EVERY SINGLE TASK THE INDIVIDUAL
WILL PERFORM IS IDENTIFIED. WE THEN ANALYZE EACH OF
THESE TASKS AND DETERMINE WHICH ONES WILL REQUIRE TRAINING.

MANY ARE ELIMINATED BECAUSE THEY ARE SO SIMPLE OR BECAUSE THEY ARE INFREQUENTLY PERFORMED. THE NEXT STEP IN THE ANALYSIS PHASE IS TO IDENTIFY THE CONDITIONS UNDER WHICH THE TASK WILL BE PERFORMED AND THE STANDARDS REQUIRED. THE RESULTS OF THIS STEP WILL PROVIDE US A MEASURING TOOL TO DETERMINE THE VALUE OF OUR TRAINING. IN THE FOURTH STEP OF THIS PHASE, WE LOOK AT EXISTING MILITARY COURSES TO DETERMINE IF THE REQUIRED TRAINING IS ALREADY BEING GIVEN SOMEWHERE OR COULD BE GIVEN BY MINOR MODIFICATION TO AN EXISTING COURSE. THIS PHASE ENDS WITH A SELECTION OF WHERE THE TRAINING SHOULD BE CONDUCTED, EITHER IN A RESIDENT SCHOOL OR IN THE FIELD THROUGH ON-THE-JOB TRAINING.

FLIP ON THE NEXT PHASE, DESIGN, CONTAINS FOUR STEPS,

FIRST, WE IDENTIFY EXACTLY WHAT THE STUDENT MUST LEARN

AND THE TYPE OF SKILL SUCH AS MENTAL OR PHYSICAL THE TASK

REQUIRES. SECOND, TESTS ARE DEVELOPED TO MEASURE THE

STUDENTS SKILL. THIRD, WE IDENTIFY THE BACKGROUND OF

THE STUDENTS WE WILL BE TRAINING TO AVOID TEACHING THEM

WHAT THEY ALREADY KNOW. THE FINAL STEP OF THIS PHASE IS

THE CREATION OF A TENTATIVE COURSE STRUCTURE.

## (TRANSLATION)

PROCESS. THE FIRST STEP IN THIS PHASE IS TO IDENTIFY:

EVERY EVENT THAT WILL BE REQUIRED TO TEACH A SOLDIER A

GIVEN TASK. THE SECOND STEP IS TO IDENTIFY THE RESPON
SIBILITIES OF THE INSTRUCTOR PERSONNEL AND HOW THE

INSTRUCTION WILL BE DELIVERED. FOR EXAMPLE, IT MIGHT

BE DELIVERED TO A GROUP OF STUDENTS BY AN INSTRUCTOR IN

A CLASSROOM OR BY SELF-PACED INSTRUCTION THROUGH TELEVISION

TAPES AND WRITTEN MATERIALS PROVIDED BY A SCHOOL. FINALLY,

WE END THIS PHASE BY ACTUALLY PRESENTING COMPLETED COURSE

MATERIALS TO A SELECTED GROUP OF STUDENTS AND THEN WE

EVALUATE AND REVISE THE MATERIALS UNTIL THEY ACCOMPLISH

OUR PURPOSE.

### (TRANSLATION)

IMPLEMENTATION FLIP ON PHASE IV, THE IMPLEMENTATION PHASE,

IS WHEN WE GATHER ALL OF THE MATERIALS, EQUIPMENT AND;

FACILITIES AND BEGIN PRESENTING THE TRAINING ON A FULL-TIME BASIS.

PROCESS OF INTERNAL EVALUATION TO ASSESS PROGRESS AND DETECT

PROCEDURAL ERRORS IN THE INSTRUCTIONAL SYSTEM AND AN

EXTERNAL EVALUATION OF TRAINED SOLDIERS TO DETERMINE IF

THEY CAN COMPETENTLY PERFORM THE TASKS WE IDENTIFIED IN

PHASE I.

#### (TRANSLATION)

THE TASKS WE HAVE GIVEN HIM -- THAT IS THE RESULT OF THE ISD

PROCESS. TRAINING IS A KEY INVESTMENT IN AN EFFICIENT AND

EFFECTIVE FIGHTING FORCE; BUT IT IS AN EXPENSIVE INVESTMENT

REQUIRING FACILITIES, TIME, MANPOWER AND MONEY. THE GOAL

OF ISD IS TO OPTIMIZE THE RETURN ON THIS TRAINING INVESTMENT

BY INCREASING THE INDIVIDUAL SOLDIER'S PERFORMANCE ON THE

JOB WHILE DECREASING THE AMOUNT OF TRAINING RESOURCES

REQUIRED. GENTLEMEN, THIS SYSTEM PROVIDED US AN ORGANIZED

METHOD OF DEVELOPING TRAINING AND ENDED OUR PREVIOUSLY

FRAGMENTED, INEFFECTIVE AND INEFFICIENT METHODS. WE BELIEVE

IT COULD BE OF CONSIDERABLE VALUE TO YOUR ARMY. THIS

CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

CHART 2 OFF

AVIATION MAINTENANCE OFFICER AND REPAIR TECHNICIAN TRAINING

CHART 1 ON AVIATION MAINTENANCE OFFICER TRAINING HAS BEEN AN FSSENTIAL FEATURE OF THE U.S. ARMY AVIATION MAINTENANCE PROGRAM SINCE REORGANIZATION OF THE ARMY IN 1952. WE STRONGLY BELIEVE THAT MOST OF OUR AVIATION MAINTENANCE OFFICERS AT ALL MAINTENANCE LEVELS MUST BE QUALIFIED AVIATORS. TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT HAS BECOME VERY EFFECTIVE, HOWEVER, THERE ARE LIMITATIONS ON WHAT CAN BE ACCOMPLISHED WITH IT. CONSEQUENTLY, THERE ARE REPAIR AND DIAGNOSTIC PROCEDURES ON THE COMPLEX AIRCRAFT AND ARMAMENT SYSTEMS THAT YOU WILL BE RECEIVING WHICH WILL REQUIRE ONE OR MORE TEST FLIGHTS IN CONJUNCTION WITH GROUND ADJUSTMENTS BY REPAIR PERSONNEL.

THIS ANALYSIS OF AVIATION MAINTENANCE OFFICER TRAINING IN THE U.S. ARMY WILL BENEFIT YOU BY AFFORDING AN EXAMPLE OF TRAINING FOR SUPERVISORY AND TECHNICAL PERSONNEL AT THE FIRST LINE OF OFFICER AND WARRANT OFFICER LEVELS. THIS EXAMPLE PRIMARILY RELATES TO THE U. S. ARMY MAINTENANCE STRUCTURE, BUT AN ANALYSIS MAY IDENTIFY A SIMILAR NEED IN YOUR AVIATION PROGRAM, ALTHOUGH SOME REVISIONS IN TRAINING CONTENT AND OBJECTIVES MAY BE NECESSARY. THE ESSENTIAL FUNCTIONS OF PERFORMING MAINTENANCE TEST FLIGHTS AND DIAGNOSING OPERATIONAL MALFUNCTIONS WILL HAVE NEARLY A DIRECT APPLICATION SINCE THEY ARE BASED ON MANUFACTURER'S TECHNICAL SPECIFICATIONS.

CHART 1 OFF

AVIATION MAINTENANCE TRAINING FOR COMMISSIONED AND WARRANT OFFICERS IN THE SAME COURSE. FOR COMMISSIONED OFFICERS, THE COURSE IS A PART OF PROFESSIONAL TRAINING FOR OFFICERS SPECIALIZING IN A CAREER OF AVIATION MATERIEL MANAGEMENT; FOR AVIATION WARRANT OFFICERS, THE COURSE AWARDS AN OCCUPATIONAL SPECIALTY.

CHART 2 ON

(TRANSLATION)

THE PURPOSE OF THE COURSE IS TO PROVIDE A GENERAL KNOWLEDGE OF THE ARMY MAINTENANCE PROGRAM; A WORKING KNOWLEDGE IN THE MANAGEMENT OF AIRCRAFT MAINTENANCE RESOURCES; INSPECTION AND DIAGNOSTIC PROCEDURES FOR MALFUNCTIONS

IN AIRCRAFT SYSTEMS, SUB-SYSTEMS, AND SUPPORT EQUIPMENT;

CORRECTIVE ACTIONS REQUIRED TO CORRECT MALFUNCTIONS, AND TO PROVIDE DETAILED KNOWLEDGE IN THE PERFORMANCE OF OPERATIONAL CHECKS REQUIRED TO DETERMINE AIRCRAFT AIRWORTHINESS. THE COURSE LENGTH IS APPROXIMATELY 15 WEEKS; HOWEVER, IT WILL VARY BY SEVERAL DAYS DEPENDING UPON WHICH AIRCRAFT THE STUDENT SPECIALIZES IN. SPECIALIZATION OCCURS IN THE LAST PHASE WHERE MAINTENANCE TEST FLYING IS TAUGHT. THERE ARE A FEW NON-RATED WARRANT OFFICERS IN THIS SPECIALTY, BUT ALL COMMISSIONED OFFICERS AND MOST OF THE WARRANT OFFICERS ARE RATED AVIATORS. ULTIMATELY, GRADUATES WILL SUPERVISE SENIOR NONCOMMISSIONED OFFICERS IN PERFORMING AND MANAGING MAINTENANCE OPERATIONS IN A UNIT, ALTHOUGH SOME OFFICERS WILL BE ASSIGNED TO STAFF MAINTENANCE POSITIONS. THE COURSE IS TAUGHT AT THE TRANSPORTATION SCHOOL SO THAT THE REQUIREMENT FOR EQUIPMENT, FACILITIES, AND FUNDS IS REDUCED THROUGH
THE SHARING OF RESOURCES WITH SIMILAR ENLISTED TRAINING.

CHART 2 OFF

GENTLEMEN, THIS CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

(TRANSLATION)

## AIRCRAFT REPAIR SUPERVISOR AND TECHNICAL

#### INSPECTOR TRAINING

CHART 1 ON AIRCRAFT REPAIR SUPERVISOR AND TECHNICAL INSPECTOR

TRAINING IS AN ESSENTIAL FEATURE OF THE U. S. ARMY AVIATION

MAINTENANCE PROGRAM.

THIS ANALYSIS OF TRAINING IN THE U. S. ARMY WILL BENEFIT

YOU BY AFFORDING AN EXAMPLE OF TRAINING FOR ENLISTED SUPER
VISORS AND TECHNICAL INSPECTORS, WHICH YOU MAY RELATE TO A

SIMILAR NEED IN YOUR AVIATION PROGRAM. HOWEVER, SOME RE
VISIONS IN TRAINING CONTENT AND OBJECTIVES MAY BE NECESSARY.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON IN THE PAST WE ONLY HAD TWO TYPES OF TECHNICAL INSPECTORS,
FIXED WING AND ROTARY WING. THEIR TRAINING WAS SEPARATE FROM

AIRCRAFT REPAIR SUPERVISORS.

UNDER A NEW CONCEPT, THE U. S. ARMY PROVIDES TRAINING FOR AIRCRAFT REPAIR SUPERVISORS AND TECHNICAL INSPECTORS IN THE SAME COURSES OF INSTRUCTION. THE COURSES ARE DESIGNED FOR ENLISTED PERSONNEL RISING TO THE NON-COMMISSIONED OFFICER (NCO) RANK OF E-6. IN THE AVIATION MAINTENANCE CAREER FIELD. AN NCO IS NOW QUALIFIED TO OCCUPY THE POSITION OF FIRST LINE MAINTENANCE SUPERVISOR, OR HE MAY OCCUPY THE POSITION OF TECHNICAL INSPECTOR OF WORK PERFORMED WITHIN HIS SPECIALTY AREA. THIRTEEN SEPARATE COURSES ARE CONDUCTED, ONE FOR EACH OF THE ENLISTED AIRCRAFT AND AIRCRAFT COMPONENT REPAIR SPECIALTIES.

CHART 2 OFF

(TRANSLATION)

CHART 3 ON IMPORTANT FACTORS WHICH CAUSED THE DEVELOPMENT OF THIS NEW CONCEPT INCLUDE:

FIRST, THE INCREASING COMPLEXITY OF AIRCRAFT AND

COMPONENT SYSTEMS MADE IT IMPOSSIBLE FOR THE AVERAGE FIXED

OR ROTARY WING TECHNICAL INSPECTOR TO MAINTAIN TECHNICAL

COMPETENCE IN ALL OF THE SYSTEMS IN THESE CATEGORIES.

SECOND, ECONOMY IN TRAINING AND PERSONNEL ASSETS

WERE ACHIEVED BECAUSE SEPARATE COURSES WITH VERY SIMILAR

CONTENT WERE COMBINED, AND BECAUSE THE TRAINED SOLDIER

IS NOW ABLE TO HOLD MORE THAN ONE POSITION IN AN AVIATION

UNIT. HE MAY BE EITHER A TECHNICAL INSPECTOR OR A

SUPERVISOR.

THIRD, TECHNICAL INSPECTORS PREVIOUSLY EXPERIENCED

DIFFICULTY IN PROMOTION TO HIGHER GRADES AS THEY WERE REQUIRED TO CROSS OVER INTO THE SUPERVISORY FIELD FOR ADVANCED PROMOTION. THIS SYSTEM PUTS ALL AVIATION MAINTENANCE PERSONNEL IN THE SAME CATEGORY FOR PROMOTION TO HIGHEST ENLISTED GRADE.

GENTLEMEN, THIS CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

(TRANSLATION)

# DEPOT MAINTENANCE - CONTRACT/ORGANIC

CHART 1 ON AIRCRAFT DEPOT MAINTENANCE IS A NECESSITY NO MATTER

WHERE OPERATIONS ARE CONDUCTED. THE SYSTEM YOU WILL REQUIRE

TO PERFORM THIS MAINTENANCE WILL DEPEND ON THE PARTICULAR

CIRCUMSTANCES EFFECTING YOUR OPERATIONS. I'LL PROVIDE A

SHORT OVERVIEW OF THE SYSTEM WE EMPLOY AND SOME COMMENTS

FOR YOUR CONSIDERATION.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON FOR US ARMY DEPOT MAINTENANCE PURPOSES, EXPERIENCE

HAS SHOWN THAT A SYSTEM COMPOSED OF ORGANIC DEPOTS AND

PRIVATE CONTRACTORS HAS BEEN THE MOST EFFECTIVE. ORGANIC

DEPOTS ARE GOVERNMENT OWNED AND GOVERNMENT OPERATED (GOGO)

AND ARE STAFFED PRIMARILY BY HIGHLY SKILLED CIVILIAN EMPLOYEES.

MANY OF THESE EMPLOYEES WERE ORIGINALLY TRAINED BY THE

GOVERNMENT WHILE THEY WERE IN THE MILITARY, THUS, BECAUSE

OF THEIR EMPLOYMENT, WE CONTINUE TO BENEFIT FROM THE

TRAINING. OUR CONTRACT DEPOT MAINTENANCE IS PERFORMED

BY PRIVATE CONTRACTORS UNDER CONTRACT TO THE GOVERNMENT.

DEPENDING ON THE SITUATION, A CONTRACT DEPOT MAY BE

GOVERNMENT OWNED CONTRACTOR OPERATED (GOCO) OT IT MAY BE

CONTRACTOR OWNED AND CONTRACTOR OPERATED (COCO).

CHART 2 OFF

(TRANSLATION)

CHART 3 ON OUR EXPERIENCE WITH ORGANIC DEPOT MAINTENANCE HAS

SHOWN IT TO BE A DESIRABLE METHOD OF PROVIDING DEPOT

MAINTENANCE FOR A VARIETY OF REASONS. WHEN LARGE QUANTITIES

OF EQUIPMENT ARE INVOLVED, WE FIND THAT ORGANIC DEPOTS CAN

PROVIDE THE MOST COST EFFECTIVE MAINTENANCE. ORGANIC

DEPOTS WITH A WORK FORCE EMPLOYED SPECIFICALLY FOR THE

PURPOSE OF PROVIDING DEPOT MAINTENANCE CAN REDUCE OR

FOR MAINTENANCE NOT ONLY AT THE DEPOT LEVEL BUT ALSO AT THE INTERMEDIATE AND UNIT LEVELS. PRIMARILY THE CONTRACT CONCEPT HAS BEEN USED FOR ADMINISTRATIVE, TRAINING OR MISSION SUPPORT AIRCRAFT; HOWEVER IN THE VIETNAM CONFLICT IT WAS EXPANDED TO INCLUDE TACTICAL AIRCRAFT. WE ALSO CONTRACT ALL MAINTENANCE TO SUPPORT AIRCRAFT USED IN OUR PILOT TRAINING PROGRAM AT THE AVIATION SCHOOL, OUR ADMINISTRATIVE FLEET OF C-12 AIRCRAFT IS SUPPORTED WORLDWIDE BY CONTRACT. THIS SUPPORT INCLUDES SUPPLY AND ALL REQUIRED MAINTENANCE EXCEPT SERVICING. THE SYNTHETIC FLIGHT TRAINING SYSTEM (SFTS) IS AN IDEAL CANDIDATE FOR CONTRACTOR SUPPORT. THE SFTS SUPPORTS THE TRAINING MISSION AND IS AT A FIXED LOCATION. ONE OF THE MOST IMPORTANT FACTORS OF CONTRACT MAINTENANCE IS THAT IT FREES SOLDIERS WHO ARE

CRITICALLY NEEDED TO SUPPORT THE COMBAT MISSION.

CHART 4 OFF

(TRANSLATION)

CONTRACTOR SUPPORT. OUR LATEST AIRCRAFT, THE BLACK HAWK,

WILL BE CONTRACTOR SUPPORTED AT THE WHOLESALE/DEPOT LEVEL

FOR SUPPLY OF PECULIAR PARTS AND DEPOT MAINTENANCE.

CURRENT PLANS ARE TO CONTINUE CONTRACT SUPPORT FOR A PERIOD

OF THREE TO FOUR YEARS. THIS WILL GIVE US UP TO THIRTY

(30) MONTHS OF OPERATIONAL EXPERIENCE TO DRAW UPON WHEN

MAKING THE VARIOUS LOGISTICAL DECISIONS REQUIRED FOR

CHART 5 OFF

FURTHER SUPPORT.

(TRANSLATION)

\$

CHART 6 ON IT APPEARS THAT THE PRIME FACTORS TO BE CONSIDERED

BY YOU IN DETERMINING THE DEPOT MAINTENANCE SYSTEM REQUIRED

TO SUPPORT YOUR EXPANDED AVIATION FLEET ARE:

## (TRANSLATION)

(1) EQUIPMENT POPULATION DENSITY. FOR INSTANCE,

THE PROJECTED DENSITY OF THE CH-47 (16) AND AH-1 (34)

IS LOW. IT PROBABLY WOULD NOT BE ECONOMICAL TO DEVELOP

AN ORGANIC CAPABILITY FOR THESE AIRCRAFT. THE UH-1 IS

PROJECTED FOR A DENSITY OF 247 AIRCRAFT; THEREFORE, IT IS

CONCEIVABLE THAT AN ORGANIC DEPOT CAPABILITY MIGHT BE

ECONOMICALLY AND OPERATIONALLY BENEFICIAL.

# (TRANSLATION)

(2) OTHER FACTORS ARE THE AMOUNT OF RESOURCES AVAILABLE. OF PRIME CONCERN HERE ARE QUALIFIED MAINTENANCE PERSONNEL, FACILITIES AND FUNDS AVAILABLE.

(TRANSLATION)

WE MUST EMPHASIZE THAT YOUR SYSTEM MUST FIT YOUR
SITUATION AND SHOULD PROVIDE THE OPTIMUM SUPPORT OF THE
FLEET AT A MINIMUM EFFECTIVE COST.

(TRANSLATION)

GENTLEMEN, THIS CONCLUDES MY BRIEFING. ARE THERE

ANY QUESTIONS?

SLIDE 6 OFF

(TRANSLATION)

## ON CONDITION MAINTENANCE/ANALYTICAL

CONDITION EVALUATION (OCM/ACE) PROGRAM

CHART 1 ON IN THE PAST, THE US ARMY HAD A PEACETIME OVERHAUL

REQUIREMENT FOR AIRCRAFT PRESCRIBED AT FIVE YEAR INTERVALS. DATA THAT WE GATHERED FROM 1967 THROUGH 1972 INDICATED THAT NO DIRECT CORRELATION EXISTS BETWEEN ELAPSED CALENDAR TIME AND AIRFRAME CONDITION. BASED UPON THIS EXPERIENCE, WE HAVE REPLACED THE FIVE YEAR CYCLIC OVERHAUL REQUIREMENT WITH A SYSTEM INCORPORATING THE ON CONDITION MAINTENANCE (OCM) CONCEPT. THIS SYSTEM HAS BEEN EXTREMELY SUCCESSFUL IN REDUCING OUR AIRCRAFT OVERHAUL REQUIREMENTS. IF IT IS ADOPTED BY YOU, YOU MAY EXPECT REDUCED OVERHAUL REQUIREMENTS AND INCREASED AIRCRAFT

RT 1 OFF

AVAILABILITY.

(TRANSI AT ION)

CHART 2 ON BEFORE WE GO ON I WOULD LIKE TO EXPLAIN THE OCMCONCEPT. IN ORDER THAT YOU MAY RELATE MORE CLOSELY, I WILL
USE AIRCRAFT OVERHAUL AS AN EXAMPLE.

ON THIS CHART ARE THREE METHODS OF DETERMINING THE NEED OF MAINTENANCE: TIME CONTROL, ON CONDITION AND CONDITION MONITORING.

### (TRANSLATION)

HARD TIME AND IS PERFORMED AT SCHEDULED INTERVALS. OUR OLD SYSTEM OF OVERHAUL EVERY FIVE YEARS IS AN EXAMPLE OF TIME CONTROL. OUR EXPERIENCE WAS THAT MANY OF THE AIRCRAFT. THAT WERE INDUCTED INTO THE DEPOTS UNDER TIME CONTROL DID NOT REQUIRE OVERHAUL. AT THE SAME TIME THERE WERE AIRCRAFT IN THE SYSTEM THAT ACTUALLY REQUIRED OVERHAUL BUT WERE STILL

2 OR MORE YEARS AWAY FROM SCHEDULED OVERHAUL.

## (TRANSLATION)

ON CONDITION ITEMS ARE ROUTINELY INSPECTED ON A SCHEDULED BASIS AND MAINTAINED AS REQUIRED. AIRCRAFT FOR EXAMPLE WOULD BE INSPECTED PERIODICALLY FOR DAMAGE C? DETERIORATION REQUIRING DEPOT LEVEL MAINTENANCE.

# (TRANSLATION)

CONDITION MONITORING IS SIMPLY TO ALLOW THE PART OR

UNIT TO OPERATE UNTIL IT FAILS OR IS UNABLE TO PERFORM

ADEQUATELY. THIS IS ONLY DONE WITH NON-CRITICAL ITEMS,

THEREFORE, AN AIRCRAFT WOULD NOT FIT THIS METHOD OF

DETERMINING THE NEED FOR MAINTENANCE. TO USE THIS METHOD

OF AN AIRCRAFT WOULD MEAN THE POSSIBILITY OF LOSS BY ACCIDENT

OR POSSIBLE DETERIORATION TO THE POINT THAT IT WOULD BE

CHEAPER TO SCRAP THE AIRCRAFT RATHER THAN REBUILD IT.

CHART 2 OFF

(TRANSLATION)

VALID METHOD FOR DETERMINING THE NEED FOR AIRCRAFT OVERHAUL.

CONDITION MONITORING OBVIOUSLY CANNOT BE APPLIED TO AIRCRAFT

BECAUSE OF SAFETY FACTORS. THAT LEAVES US WITH OCM. WE HAVE

ESTABLISHED AN ANALYSIS SYSTEM BASED UPON THE OCM CONCEPT

FOR THE EXPRESS PURPOSE OF INSURING THAT THE AIRCRAFT MOST IN

NEED OF DEPOT MAINTENANCE IS SCHEDULED IN FIRST.

# (TRANSLATION)

THE FOUNDATION OF THE OCM CONCEPT IS RELIABLE INSPECTION.

WE ESTABLISHED THE ANALYTICAL CONDITION EVALUATION (ACE)

SYSTEM TO PROVIDE GUIDANCE FOR THE INSPECTION OF THOSE

AIRCRAFT AREAS MOST LIKELY REQUIRING DEPOT MAINTENANCE, IF

MAINTENANCE IS REQUIRED. IT ALSO PROVIDES THE INSPECTOR NUMERICAL VALUES TO BE ASSIGNED TO EACH DISCREPANCY. ALL OF THE VALUES ADDED TOGETHER FOR A SPECIFIC AIRCRAFT MAKE UP THAT AIRCRAFT'S PROFILE INDEX.

#### (TRANSLATION)

FOR EACH AIRCRAFT MISSION, DESIGN, AND SERIES (MDS)

A THRESHOLD HAS BEEN ESTABLISHED. THIS THRESHOLD IS THE

PROFILE INDEX LIMIT BEYOND WHICH AN AIRFRAME IS CONSIDERED

A CANDIDATE FOR OVERHAUL.

UTILIZING THE PROFILE INDEX DEVELOPED BY THE ACE
INSPECTION, A LIST OF CANDIDATES FOR DEPOT OVERHAUL IS
DEVELOPED. THIS LIST IS BY TYPE, MODEL AND SERIAL NUMBER AND
IS RANKED WITH THE HIGHEST NUMBERED PROFILE FIRST. THIS
INSURES THAT THE AIRCRAFT MOST IN NEED OF DEPOT MAINTENANCE

IS THE FIRST SCHEDULED FOR OVERHAUL.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON THIS CHART SHOWS SOME OF THE AREAS INSPECTED BY THE

ACE TEAMS. YOU MAY NOTICE THAT THE AREAS ARE THOSE

REQUIRING DEPOT LEVEL MAINTENANCE FOR CORRECTION. THESE ARE

AREAS THAT REQUIRE HIGH SKILL LEVELS AND DEPOT TOOLS TO

CORRECT.

CHART 4 OFF

(TRANSLATION)

CHART 5 ON I AM SURE YOU WILL AGREE THAT THE ONLY EFFECTIVE

SYSTEM IS ONE THAT PRODUCES THE DESIRED RESULTS; THEREFORE

WITH THE RESULTS SHOWN BY THIS CHART THE OCM/ACE IS A VERY

EFFECTIVE SYSTEM. NOTICE ON THE TOP LINE THAT THE OVERHAUL

OF UH-1'S HAS BEEN REDUCED FROM 22.1% OF THE TOTAL FLEET IN

1974 TO A PROJECTED 7.4% IN 1980. THAT ADDS UP TO DRAMATIC

COST SAVINGS. YOU CAN SEE THAT THERE HAS BEEN A SHARP

DECLINE THROUGHOUT IN THE NUMBER OF AIRCRAFT IN NEED OF

OVERHAUL. WHAT MAKES THIS SO IMPRESSIVE IS THE FACT THAT

WITHOUT OCM ONE-FIFTH OF THE FLEET, A FULL 20% WOULD HAVE

BEEN INDUCTED INTO A DEPOT EACH YEAR.

### (TRANSLATION)

IN THE EVENT YOU DECIDE TO IMPLEMENT AN ACE PROGRAM, YOU WILL FIND THAT INSPECTION GUIDELINES HAVE BEEN PUBLISHED AND ARE AVAILABLE FOR THE U1-1!!, CH-47 AND AH-1G AIRCRAFT. WE DO MOT HAVE GUIDELINES FOR YOUR 500 M-D; HOWEVER, WE DO HAVE THEM FOR OUR OH-6 WHICH IS A SIMILAR AIRCRAFT.

# (TRANSLATION)

WE ESTIMATE THAT A TEAM OF 3 PEOPLE WOULD BE REQUIRED

TO INSPECT AND MANAGE AN OCM/ACE PROGRAM FOR A FLEET OF UP

TO 1000 AIRCRAFT. WHEN YOU CONSIDER THE BENEFITS THAT WILL

BE RECEIVED FROM AN ACTIVE ACE PROGRAM, IN THE WAY OF

REDUCED COSTS AND AIRCRAFT DOWNTIME, THE EXCELLENT PAYOFF

RELATIVE TO THE INVESTMENT IS OBVIOUS.

CHART 5 OFF

(TRANSLATION)

GENTLEMEN, THAT CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

(TRANSLATION)

#### DEPOT SUPPLY

CHART 1 ON GENTLEMEN, OUR NEXT SUBJECT AREA IS DEPOT SUPPLY.

ACTUALLY, MY BRIEFING IS BROADER IN SCOPE AS WE REALLY

CANNOT ADDRESS DEPOT SUPPLY WITHOUT ADDRESSING OTHER

PARTS OF THE SYSTEM FROM ARMY SUPPLY POLICT TO UNIT

OPERATIONAL DOCTRINE. WE WANT TO POINT OUT SOME SUPPLY

MANAGEMENT CONSIDERATIONS AT ALL LEVELS AND BRIEFLY

REVIEW SOME OF OUR TECHNIQUES FOR MAKING A MORE

EFFECTIVE SUPPLY SYSTEM.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON DEPOT SUPPLY PROVIDES AN UMBRELLA OF REPAIR PARTS,

COMPONENTS AND END ITEMS WHICH ASSURES THAT FUND

CONSTRAINTS, INTERRUPTION OF SUPPLY LINES, WAR AND A

MYRIAD OF OTHER POTENTIAL DISRUPTIONS HAVE THE LEAST

POSSIBLE IMPACT ON SUPPLY AND MAINTENANCE OPERATIONS AT ALL LEVELS. SUPPLY STOCKAGE AT DEPOT LEVEL SHOULD BE BASED UPON WHAT OUR SUPPLY STOCKAGE POLICY IS AT THE AVIATION UNIT AND INTERMEDIATE MAINTENANCE LEVELS.

ADDITIONALLY, IT MUST CONTAIN ADEQUATE STOCKS TO COVER DISRUPTIONS, AS PREVIOUSLY MENTIONED.

CHART 2 OFF

(TRANSLATION)

CONSIDERATIONS RELEVANT TO THE DEVELOPMENT OF SUPPORT

FOR YOUR GREATLY EXPANDED AVIATION ASSETS, IS THE TIME

FOR INNOVATIVE THINKING. NOW IS THE TIME FOR DISCUSSIONS

ON THE NECESSITY FOR INTERMEDIATE LEVELS OF SUPPLY TO

SUPPORT UNIT REQUIREMENTS. PERHAPS YOUR SHORT SUPPLY

LINES WILL ALLOW DISTRIBUTION DIRECT FROM DEPOT TO THE USER.

NOW IS THE TIME TO CONSIDER THE LENGTH AND CONSEQUENT COST OF THE SUPPLY PIPELINE, THE TRANSPORTATION COSTS TO REDUCE THE PIPELINE, AND THE TRIMMING OF NON-ESSENTIAL ITEMS FROM STOCKAGE LISTS. FIRST THOUGH, WE MUST CONSIDER THE ROLE OF OUR AVIATION UNIT IN WAR. WE KNOW FROM PAST EXPERIENCE THAT OUR AVIATION UNIT MAINTENANCE TURNS FROM TUR MAINTENANCE TO SIMPLE PARTS CHANGING IN WAR-TIME. SIMPLY IS TOO MUCH TO BE DONE. CONSEQUENTLY, MORE COMPLICATED REPAIRS WILL BE EVACUATED TO HIGHER LEVELS. KNOWING THIS, WE'LL WANT TO DESIGN OUR SUPPLY SYSTEM TO SUPPORT WAR-TIME NEEDS AND THEN ADJUST FOR PEACETIME. THERE ARE MANY OTHER CONSIDERATIONS, OF COURSE. ONE THING IS CERTAIN, A GOOD SUPPLY SYSTEM IS THE RESULT OF ANALYZING AND DESIGNING FROM THE LOWEST LEVEL UP.

CHART 3 OFF

(TRANSLATION)

NOW, I WOULD LIKE TO DISCUSS SOME OF OUR EXPERIENCES

AND SYSTEMS WE HAVE DEVELOPED TO PROVIDE THE USER

OPTIMUM SUPPLY SUPPORT.

CHART 4 ON THIS CHART DEPICTS THE NUMBER OF LINE ITEMS IN THE

THEATRE AUTHORIZED STOCKAGE LIST TO SUPPORT AVIATION MATERIEL

DURING A PERIOD OF THE VIETNAM WAR. THE AVIATION MATERIEL

MANAGEMENT CENTER, THRU THE APPLICATION OF INNOVATIVE

THINKING, REDUCED THE STOCKAGE LIST BY MORE THAN HALF THE

FIRST YEAR AND AN ADDITIONAL 1/3 IN THE SECOND YEAR. J

DO NOT HAVE THE INVENTORY COST SAVINGS AVAILABLE FOR

THOSE 27,000 LINES, BUT YOU CAN BELIEVE ME WHEN I SAY

THEY WERE FNORMOUS. ADD TO THAT FIGURE THE SAVINGS DUE

TO REDUCED TRANSPORTATION, STORAGE, PACKAGING AND HANDLING COSTS AND YOU CAN SEE THE COST SAVINGS WERE FANTASTIC.

CHART 4 OFF

(TRANSLATION)

YOU MIGHT BE ASKING WHAT HAPPENED TO THE OPERATIONAL READINESS RATE DURING THIS SAME PERIOD. WELL, AS YOU CAN SEE ON THIS CHART --

CHART 5 ON OUR OPERATIONALLY READY RATE (OR) ACTUALLY IMPROVED

DURING THIS SAME TWO YEAR PERIOD. WE ALSO EXPERIENCED

FEWER NOT OPERATIONALLY READY - SUPPLY (MORS) CONDITIONS

AND THE NOT OPERATIONAL READY - MAINTENANCE (NORM) CONDITION

ALSO IMPROVED. NOTE ALSO THAT THE RELATIONSHIP BETWEEN

NORS AND MORM REMAINED RELATIVELY CONSTANT. THE FLYING

HOUR PROGRAM AND AIRCRAFT INVENTORY REMAINED FAIRLY

CONSTANT DURING THIS PERIOD, ALTHOUGH REDUCED SLIGHTLY OVERALL.

CHART 5 OFF

(TRANSLATION)

OUR SEARCH FOR INNOVATIVE IDEAS DID NOT STOP THERE. FOR EXAMPLE, THE DIRECT SUPPORT SYSTEM WHICH BEGAN CHART 6 ON DURING THE VIETNAM WAR HAS NOW BEEN ADOPTED AND IMPLEMENTED WORLDWIDE, BASED ON SIMPLIFYING THE SUPPLY SYSTEM BY REDUCING THE NUMBER OF DEPOTS, AUTOMATING THE REQUISITIONING PROCESS AND SHIPPING DIRECT FROM DEPOT TO THE AVUM OR AVIM IN CONSOLIDATED CONTAINER LOADS, THE DIRECT SUPPORT SYSTEM HAS PROVEN TO BE HIGHLY COST EFFECTIVE AND RESPONSIVE TO USER REQUIREMENTS. AS WE KNOT IT, THE DIRECT SUPPORT SYSTEM IS DESIGNED TO PROVIDE SUPPLY SUPPORT ON A GLOBAL SCALE BUT THE SAME PRINCIPLES COULD BE

APPLIED TO YOUR OPERATIONS HERE IN KOREA. ANOTHER INNOVATION OF MORE RECENT TIME IS THE AIR LINE OF COMMUNICATION (ALOC) CONCEPT WHICH IS AN EXTENSION OF THE DIRECT SUPPORT SYSTEM CONCEPT. ALOC SUBSTITUTES FAST AIR TRANSPORTATION FOR THE SLOWER SURFACE MODES AND THEREBY ALLOWS A REDUCTION IN STOCK LAYERING. THE RAPID DISTRIBUTION PROVIDED BY ALOC PERMITS RESUPPLY FROM THE CONTINENTAL UNITED STATES DIRECT TO OUR OVERSEAS FORCES RATHER THAN FROM THEATRE STOCKS. THE REDUCED PIPELINE AND STOCKAGE COSTS OFFSET THE EXPENSE OF THIS FORM OF TRANSPORTATION. THE ALOC SYSTEM IS FUNCTIONING FOR EUROPE AND THE PROGRAM IS NOW EXPANDING TO SUPPORT OUR FORCES IN THE REPUBLIC OF KOREA. AGAIN, IT IS RECOGNIZED THAT I'M DESCRIBING A SYSTEM DESIGNED FOR WORLDWIDE DISTRIBUTION; HOWEVER, THE SAME CONCEPT OF

SUBSTITUTING A RESPONSIVE, INTENSIVELY MANAGED, SUPPLY
DISTRIBUTION SYSTEM COULD BE ADOPTED TO YOUR NEEDS FOR
INTERNAL AND EXTERNAL RESUPPLY.

CHART 6 OFF

(TRANSLATION)

CHART 7 ON HERE ARE THREE METHODS WE USE TO PROVIDE MORE EFFECTIVE ECONOMICAL SUPPLY. I'LL DISCUSS ACIMS AND AIMI DURING THE NEXT WORKSHOP AND DX NOW. DIRLCT EXCHANGE (DX) IS A PROGRAM WE HAVE USED FOR A LONG TIME TO ELIMINATE PAPERWORK AND REDUCE THE TIME REQUIRED TO SECURE A MODULE OR COMPONENT. THE DX PROGRAM IS CENTERED AT THE AVIATION INTERMEDIATE MAINTENANCE LEVEL. LIMITED STOCKS OF HIGH USAGE MODULES AND COMPONENTS ARE STOCKED AND REPAIRED AT THE AVIN. THE USER SIMPLY BRINGS IN AN UNSERVICEABLE ITEM TO THE AVIM AND IS GIVEN A SERVICEABLE ITEM IN EXCHANGE.

NO REQUISITION IS REQUIRED; OBVIOUSLY SUPPLY RESPONSIVENESS

IS INCREASED BY THE REDUCTION IN TIME REQUIRED TO PREPARE

AND SEND THE REQUISITION AND TO DELIVER THE ITEM.

CHART 7 OFF

(TRANSLATION)

GENTLEMEN, THAT CONCLUDES MY BRILFING. ARE THERE ANY QUESTIONS?

(TRANSLATION)

AVIATION INTENSIVE MANAGEMENT ITEMS (AIMI) AND

AVIATION COMPONENT INTENSIVE MANAGEMENT SYSTEM (ACIMS)

CHART 1 ON GENTLEMEN, WE WOULD LIKE TO DISCUSS TWO OF OUR SUPPLY

MANAGEMENT SYSTEMS: THE "AVIATION INTENSIVE MANAGEMENT

ITEMS" (AIMI) AND THE AVIATION COMPONENT INTENSIVE

MANAGEMENT SYSTEM (ACIMS). FIRST, I WILL DESCRIBE THE

AVIATION INTENSIVE MANAGEMENT ITEM (AIMI) SYSTEM.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON THE AVIATION REPAIR PART SUPPLY SUPPORT FOR YOUR

FLEET OF AIRCRAFT CH-47, UH-1, AND AH-1 WILL BE VERY

COSTLY. I HAVE SELECTED THREE OF THE MOST EXPENSIVE

ITEMS FOR EACH AIRCRAFT SYSTEM THAT WILL BE IN YOUR

INVENTORY TO GIVE YOU AN APPRECIATION FOR THE COSTS

INVOLVED.

## (TRANSLATION)

BECAUSE OF THE INCREASE IN AIRCRAFT INVENTORY AND THE COSTS INVOLVED IN PROVIDING ADEQUATE SUPPLY SUPPORT ON A WORLDWIDE BASIS, WE ESTABLISHED THE AIMI PROGRAM TO PROVIDE FOR INTENSIVE MANAGEMENT OF SELECTED AVIATION ITEMS WHICH ARE CRITICAL TO THE SUPPORT OF ARMY AIRCRAFT SYSTEMS. THE GOAL OF THE AIMI PROGRAM IS TO SUPPORT THE AVIATION UNITS WITH SUFFICIENT ASSETS TO ACCOMPLISH THEIR MISSION BY MANAGING AND DISTRIPUTING AVAILABLE ASSETS AS EQUITABLY AS POSSIBLE AT MINIMUM COST. *

CHART 2 OFF

(TRANSLATION)

CHART 3 ON THE AIMI PROGRAM CAN BE SEPARATED INTO TWO GROUPS -HARDCORE AND CRITICAL.

GROUP 1 - HARDCORE: HARDCORE ITEMS ARE VERY EXPENSIVE ITEMS THAT ARE INTENSIVELY MANAGED TO HOLD OUR INVENTORY INVESTMENTS TO THE MINIMUM.

GROUP 2 - CRITICAL: CRITICAL ITEMS ARE USUALLY IN VERY SHORT SUPPLY; THAT IS, INSUFFICIENT ASSETS ARE AVAILABLE TO SATISFY WORLDWIDE DEMANDS.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON SEVERAL ADVANTAGES THAT WE HAVE FOUND SINCE THE

AIMI SYSTEM WAS ESTABLISHED IN 1970 ARE THAT OUR DEPOT

INVENTORIES WERE REDUCED, OUR OPERATIONAL READINESS POSTURE

BECAME HIGHER, THERE WAS A REDUCTION IN ORDER AND SHIP TIME,

AND WE HAD BETTER VISIBILITY OF ITEM LOCATION, AND CONTROL

ON THE ISSUE OF THESE TYPE ITEMS. IT SHOULD ALSO BE NOTED

THAT SINCE WE ESTABLISHED THE AIMI PROGRAM, THE

UNSERVICEABLE RETURN RATE FOR ENGINES HAS CONSISTENTLY

BEEN CLOSE TO 100% AND IN THE HIGH 90% FOR ALL OTHER

ITEMS.

CHART 4 OFF

(TRANSLATION)

NOW I WILL EXPLAIN TO YOU HOW THE AIMI LIST IS

DEVELOPED. THE AIRCRAFT SYSTEM MANAGERS AT THE U.S. ARMY

TROOP SUPPORT AND AVIATION MATERIEL READINESS COMMAND,

ST. LOUIS, MISSOURI, ESTABLISHES AN ITEM AS AIMI BASED ON

SUCH CRITERIA AS SHORT-SUPPLY IN STOCKS, HI-DOLLAR VALUE,

AND RETURN RATE OF REPARABLE TYPE ITEMS TO THE WHOLESALE

SUPPLY SYSTEM. THESE ITEMS ARE IDENTIFIED TO WORLDWIDE

USERS BY PUBLICATION OF QUARTERLY SUPPLY LETTERS AND

ARE BROADCASTED WORLDWIDE IN THE "ARMY MASTER DATA FILE"

WHICH CONTAINS THE NATIONAL STOCK NUMBER OF EVERY REPAIR
PART WE USE.

## (TRANSLATION)

SEMIANNUAL CONFERENCES ARE HELD TO NEGOTIATE LEVELS CHART 5 JN OF SUPPLY BETWEEN THE AIRCRAFT SYSTEM MANAGERS AND REPRE-SENTATIVES OF THE USING COMMANDS. THE USER FORECASTS HIS PROJECTED MONTHLY REQUIREMENTS BASED ON HIS FLEET DENSITY, HOW MANY HOURS THE FLEFT WILL FLY, NUMBER OF TIME CHANGE COMPONENTS, ITEM FAILURES AND ANY OTHER DATA THAT MAY APPLY TO THE ITEMS BEING NEGOTIATED. THEN THE USER AND THE AIRCRAFT SYSTEM MANAGERS MEET FACE-TO-FACE AND ESTABLISH THE LEVEL OF SUPPORT THAT IS REQUIRED BASED UPON THE OVERALL ASSET POSITION AND ANY PROBLEM RELATED

TO SUPPORTING THE ITEM THROUGHOUT THE NEGOTIATED PERIOD.

CHART 5 OFF

(TRANSLATION)

THE AIMI PROGRAM REQUIRES NO SOPHISTICATED COMPUTERS.

IT CAN BE APPLIED MANUALLY WITHIN YOUR NORMAL SUPPLY STOCK

CONTROL FUNCTIONS. AN INDIVIDUAL COULD BE ASSIGNED AS

YOUR AIMI MONITOR (CLERK) AT THE USER LEVEL TO ASSURE

THAT THE REQUESTED ITEM IS INSTALLED AND THE UNSERVICEABLE

ITEM IS RETURNED TO THE WHOLESALE SUPPLY SYSTEM FOR OVERHAUL

AND REPAIR.

# (TRANSLATION)

CHART 6 ON I ALSO MENTIONED A PROGRAM CALLED THE AVIATION

COMPONENT INTENSIVE MANAGEMENT SYSTEM. THIS SYSTEM

PROVIDES THE WHOLESALE AIRCRAFT MANAGER WORLDWIDE KNOWLEDGE

OF THE LOCATION, CONDITION, STATUS AND OPERATING HOURS OF SELECTED AIRCRAFT COMPONENTS IN THE HANDS OF UNITS. AT THE PRESENT TIME, ACIMS COVERS SUCH ITEMS AS TURBINE ENGINES, CERTAIN TRANSMISSIONS, AND ROTOR HUPS, ALL OF MHICH ARE USUALLY THE "HARDCORE AIMI" ITEMS.

USING UNITS OF THESE ITEMS SEND IN A REPORT, EIGHER MANUAL OR ELECTRONIC, TO THE NATIONAL INVENTORY CONTROL POINT WHEN A CHANGE OCCURS, SUCH AS THE CONDITION OF THE ITEM, A LOCATION CHANGE, OR A CHANGE IN STATUS.

DATA THAT IS MADE AVAILABLE THROUGH THE ACIMS PROGRAM

TO THE NATIONAL INVENTORY CONTROL POINTS PROVIDES THE;

WHO! ESALE SUPPLY SYSTEM WITH INFORMATION SUCH AS --

- ISSUE AND RETURN PIPE-LINE TIME.
- 2. ENGINE FAILURES.

- 3. OPERATING HOURS.
- 4. AND LOCATION OF COMPONENTS.

THIS INFORMATION IS MOST VALUABLE TO THE AIRCRAFT SYSTEM

MANAGERS IN THE DAY-TO-DAY SUPPLY MANAGEMENT OF THESE ITEMS.

THE SYS M CAN BE APPLIED IN CONJUNCTION WITH THE AIMI

PROGRAM WITHIN YOUR NORMAL SUPPLY STOCK CONTROL FUNCTIONS.

CHART 6 OFF

GENTLEMEN, THIS CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

### AIRCRAFT SYSTEMS MANAGEMENT

CHART 1 ON OVER THE PAST TWO DAYS, I'M SURE AT LEAST TWO THINGS HAVE BECOME VERY EVIDENT. FIRST, YOU ARE GOING TO ACQUIRE AIRCRAFT THAT ARE MUCH MORE COMPLEX THAN YOUR CURRENT FLEET; AND SECOND, OPERATING AND MAINTAINING THEM WILL BE A VERY COSTLY ENDEAVOR. PROBABLY THE BEST WAY TO GET THE MOST BENEFIT FROM THESE AIRCRAFT AT LEAST COST IS THROUGH SOUND MANAGEMENT PRACTICES. AIRCRAFT SYSTEMS MANAGEME 'T THROUGH A CONCEPT AND OFFICE WE CALL THE READINESS PROJECT OFFICE (RPO) IS THE US ARMY'S METHOD OF MAMAGING A FIELDED FLEET OF AIRCRAFT SUCH AS THE UH-1 HELICOPTER AT THE NATIONAL INVENTORY CONTROL AND MAINTENANCE POINTS.

CHART 1 OFF

BEFORE I DISCUSS IN DETAIL THE FUNCTIONS OF A READINESS PROJECT OFFICE, I'D LIKE TO DESCRIBE OUR PREVIOUS MANAGEMENT METHOD AND WHY WE HAVE SYSTEMS MANAGEMENT NOW.

CHART 2 ON PRIOR TO IMPLEMENTING THE RPO SYSTEM, MANAGEMENT RESPONSIBILITIES WERE FRAGMENTED WITHIN VARIOUS FUNCTIONAL ORGANIZATIONS AT THE TROOP SUPPORT AND AVIATION MATERIEL READINESS COMMAND (TSARCON). WITH MANAGEMENT SCATTERED OVER SEVERAL FUNCTIONAL ORGANIZATIONS SUCH AS THE DIRECTORATES FOR MAINTENANCE, MATERIEL MANAGEMENT (SUPPLY) AND PROCUREMENT, THERE WAS NO FOCAL POINT OTHER THAN THE COMMANDER, FOR OVERALL MANAGEMENT OF ANY AIRCRAFT SYSTEM. AVIATION UNITS OR HIGHER HEADQUARTERS HAD NO SINGLE POINT TO LOOK TO FOR ANSWERS. THIS FUNCTIONALLY ORIENTED APPROACH ALLOWED PROGRAM ACTIONS TO BE ACCOMPLISHED PIECEMEAL;

THAT IS BY COMMODITIES AND SUB-SYSTEMS RATHER THAN ...

A TOTAL SYSTEM SUCH AS THE UH-1 AIRCRAFT SYSTEM. THE

SYSTEMS MANAGEMENT CONCEPT WAS CONCEIVED TO FILL THIS

CHART 2 OFF

(TRANSLATION)

CHART 3 ON IT PROVIDES CENTRALIZED PROGRAM MANAGEMENT OVER A

TOTAL AIRCRAFT SYSTEM AND A SINGLE POINT IN THE COMMAND

FOR RESOLVING USER AND HIGHER HEADQUARTERS NEEDS.

RESOLVING USER PROBLEMS IS ONE OF THE MOST IMPORTANT

FUNCTIONS OF THE AIRCRAFT SYSTEM MANAGEMENT CONCEPT.

THE READINESS PROJECT OFFICE IS NOT INTENDED TO REPLACE OR SUPERCEDE THE MISSION TASKS ASSIGNED TO THE FUNCTIONAL DIRECTORATES. WE KNOW FROM EXPERIENCE THAT

FUNCTIONALLY ORGANIZING IS THE MOST ECONOMICAL WAY. HOWEVER, WE ALSO KNOW THAT ORGANIZATION AND MANAGEMENT ARE NOT THE SAME THING. THE FUNCTIONAL DIRECTORATES ARE NOT THE SAME THING. THE FUNCTIONAL DIRECTORATES ARE SERVICE ORGANIZATIONS, WHICH ACCOMPLISH THEIR MISSIGNS WITHOUT BEING RESPONSIBLE FOR TOTAL SYSTEMS MANAGEMENT. RPO'S MANAGE THEIR SYSTEM PROGRAM BY INJECTING THEMSELVES INTO FUNCTIONAL ELEMENT DUTIES TO THE EXTENT NECESSARY TO ASSURE THAT THEIR PROGRAMS ARE BEING EFFECTIVELY MANAGED AND EXECUTED. WITHIN TSARCOM, THEY ARE NOT REQUIRED TO FOLLOW THE CHAIN OF COMMAND. IN FACT, CUTTING ACROSS: COMMAND LINES DIRECTLY TO THE FUNCTIONAL ELEMENT REQUIRED TO COMPLETE A TASK IS ONE OF THE KEY ELEMENTS OF THE SYSTEMS MANAGEMENT APPROACH. THE RPO SIMPLY PROVIDES

SYSTEMS-ORIENTED, INTENSIVE MANAGEMENT OF ALL THE PROGRAMS

PECULIAR TO HIS SYSTEM. EACH RPO IS PERMITTED ONLY THE

MINIMUM STAFF NECESSARY TO ACCOMPLISH HIS MISSION. THE

RPO FOR AN AIRCRAFT SYSTEM SUCH AS THE UH-1 HELICOPTER

MOULD CONSIST OF FIVE TO TEN PERSONNEL.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON OUTLINED ON THIS CHART ARE SOME OF THE MAJOR DUTIES

OF A READINESS PROJECT OFFICER. THEY ARE:

- 1. TO PROVIDE USERS AND HIGHER HEADQUARTERS WITH A SINGLE CONTACT POINT FOR RESOLVING PROBLEMS AFFECTING THE OPERATIONAL MISSION AND READINESS OF ASSIGNED SYSTEMS.
- 2. TO PLAN, DIRECT AND CONTROL THE ALLOCATION AND UTILIZATION OF FUNDS IN THE EXECUTION OF HIS LIFE CYCLE MANAGEMENT RESPONSIBILITIES.

- 3. TO PROVIDE OVERALL MANAGERIAL DIRECTION TO

  THE PROCESS OF ACQUIRING AND APPLYING PRODUCT IMPROVEMENTS

  AND MODIFICATION WORK ORDERS FOR HIS SYSTEM.
- 4. TO ESTABLISH SYSTEM PROGRAM PRIORITIES AND
  OBJECTIVES PARTICULARLY WHEN COST PERFORMANCE AND SCHEDULES
  ARE INVOLVED.
- 5. TO REVIEW AND APPROVE ANY PLAN FOR TESTING,
  PROCUREMENT, MATERIEL FIELDING OR OTHER PLANS PERTAINING
  TO HIS ASSIGNED SYSTEM.

GENTLEMEN, WE STRONGLY BELIEVE THAT THE SYSTEMS

MANAGEMENT APPROACH IS THE BEST WAY TO EFFICIENTLY AND,

EFFECTIVELY MANAGE THE COMPLEX AIRCRAFT SYSTEMS OF TODAY.

COSTS HAVE BECOME SO HIGH THAT WE SIMPLY CANNOT AFFORD

TO MAINTAIN AN AIRCRAFT SYSTEM WITHOUT POSITIVE CONTROL UNDER A SINGLE MANAGER SUCH AS THE RPO. THIS CONCLUDES

MY BRIEFING. ARE THERE ANY QUESTIONS?

CHART 4 OFF

### AVIATION LOGISTICS MANAGEMENT

# TECHNIQUES INTRODUCTION

CHART 1 ON GENTLEMEN, AT THE CONCLUSION OF OUR DISCUSSIONS ON

THE READINESS PROJECT OFFICER CONCEPT AND ITS ROLE IN

AVIATION MANAGEMENT, IT SEEMS APPROPRIATE NOW TO ADDRESS

FOUR OF THE MANAGEMENT TECHNIQUES WHICH ARE USED BY THE

RPO AND OTHER LOGISTICS MANAGERS TO ACCOMPLISH THE AVIATION

LOGISTICS MANAGEMENT MISSION.

CHART 1 OFF

(TRANSLATION)

DURING THIS MORKSHOP. WE WILL PAUSE AT THE END OF EACH
SO THAT YOU MAY ASK QUESTIONS IF YOU DESIRE. BEFORE WE
START OUR DISCUSSIONS, I DO WANT TO STRESS THAT THESE

MANAGEMENT TOOLS ARE NOT RESTRICTED TO THE RPO. THEY
ARE WIDELY USED THROUGHOUT AVIATION LOGISTICS MANAGEMENT.
THEY ARE ONLY A SAMPLE OF THE TOOLS WE USE; HOWEVER, WE
THINK THEY ARE IMPORTANT AND RELEVANT TO YOUR NEEDS.

CHART 2 OFF

(TRAL'SLATION)

## MITEGRATED LOGISTICS SUPPORT

CHART 3 ON THE FIRST AVIATION LOGISTICS MANAGEMENT TECHNIQUE WE WILL DISCUSS IS INTEGRATED LOGISTICS SUPPORT (ILS). THE US ARMY USES IT TO INSURE THAT ALL OF THE SUPPORT REQUIRE-MENTS FOR A NEW SYSTEM OR MODIFIED SYSTEM ARE INTEGRATED AND EVALUATED TO GET THE MOST PERFORMANCE FOR THE LEAST COST IN SUPPORT REQUIREMENTS. IT IS APPLICABLE TO NEW DEVELOPMENTS AS WELL AS TO MODIFICATIONS OF THE FIFTHED PLEET. THE CULMINATION OF INTEGRATED LOGISTICS SUPPORT IS THE SUCCESSFUL FIELDING OF AN AIRCRAFT SYSTEM WITH ALL OF ITS SUPPORT REQUIREMENTS INTACT, EFFECTIVE AND EFFICIENT.

CHART 3 OFF

(TRANSLATION)

CHART 4 ON THE ILS OFFICE IS ESTABLISHED AT THE TROOP SUPPORT AND AVIATION MATERIEL READINESS COMMAND (TSARCOM). HOWEVER, THE

OFFICE NOT ONLY SUPPORTS TSARCOM, BUT IT ALSO PROVIDES ILS SERVICES FOR TASKS SELECTED BY AVIATION SYSTEMS DEVELOPMENT PROJECT MANAGERS IN THE AVIATION RESEARCH AND DEVELOPMENT COMMAND (AVRADOM). THE ILS OFFICE PLAYS A SUPPORTIVE ROLE, ON REQUEST, WITH THE PROJECT MANAGERS. ONCE ACQUISITION OF THE SYSTEM IS COMPLETE AND RESPONSIBILITY FOR THE FILLDED SYSTEM IS TRANSFERRED TO TSARCOM, THE ILS OFFICE ASSUMES FULL RESPONSIBILITY FOR INTEGRATED LOGISTICS SUPPORT.

CHART 4 OFF

(TRANSLATION)

CHART 5 ON THE ILS OFFICE IS RESPONSIBLE FOR INSURING THAT ALL

OF THE PIECES OF THE LOGISTICS SUPPORT PUZZLE SHOWN HERE

ARE INTEGRATED TOGETHER TO FORM A COMPOSITE LOGISTICS

SUPPORT PACKAGE FOR AN AIRCRAFT OR SUBSYSTEM. PULLING ALL

OF THESE CONSIDERATIONS TOGETHER FOCUSES MORE ATTENTION

OF THIS TECHNIQUE - LOGISTICS SUPPORT CONSIDERATIONS NOW RECEIVE THE SAME HIGH LEVEL OF ATTENTION THAT DESIGN OF THE AIRCRAFT SYSTEM MIGHT GET, AND FOR GOOD REASON TOO.

CHART 5 OFF

(TRANSLATION)

CHART 6 ON AS SHOWN ON THIS CHART, SUPPORT COSTS FOR OUR AIRCRAFT

SYSTEMS, IN 1978, RANGED FROM 2.9 TO 5.9 TIMES THE

ACQUISITION COST. ORVIOUSLY, WE MUST DO EVERYTHING POSSIBLE

TO REDUCE THIS RATIO. ILS RECUNIQUES CAN DO MUCH TO

INCREASE AIRCRAFT AND SUBSYSTEM RELIABILITY, CREATIONAL

AVAILABILITY, AND MAINTAINABILITY TO HELP US ACHIEVE THIS

GBJECTIVE.

CHART 6 OFF

RETURN CHART 3 ON ALTHOUGH WE HAVE PRINCIPALLY USED ILS TO

IMPROVE THE SUPPORTABILITY OF NEW SYSTEMS OR MODIFICATIONS

TO FIELDED SYSTEMS, WE BELIEVE THAT ILS CAN BE APPLIED TO

THE PLANNING CONSIDERATIONS YOU FACE IN ACQUIRING AND

FIELDING THE UH-1, AH-1, CH-47 AIRCRAFT. THE NEXT PORTION

OF OUR LOGISTICS MANAGEMENT TECHNIQUES BRIEFING WILL

CONCENTRATE ON A KEY FEATURE OF ILS, THE MATERIEL FIELDING

PLAM. BEFORE WE BEGIN, ARE THERE ANY QUESTIONS ON ILS?

CHART 3 OFF

## NATERICL FIELDING PLAN

CHART 7 ON THE SECOND MANAGEMENT TECHNIQUE I WOULD LIKE TO

DISCUSS WITH YOU IS THE MATERIEL FIELDING PLAN. MATERIEL

FIELDING IS ONE OF THE KEY FUNCTIONS OF INTEGRATED LOGISTICS

SUPPORT. THE MATERIEL FIELDING PLAN IS OUR METHOD TO INSURE

THAT LOGISTICS SUPPORT OF A NEW SYSTEM OR SUBSYSTEM IS

COMPLETE BEFORE THE USER IS PROVIDED THE EQUIPMENT. ME

BELIEVE THIS MANAGEMENT TECHNIQUE MAY HAVE DIRECT

PPLICATION TO YOUR ACTIONS IN FIELDING THE UH-1, AH-1,

CH-97 AIRCRAFT IN YOUR ARMY.

CHART 7 OFF

(TRANSLATION)

THE DEVELOPMENT AND MATERIEL READINESS COMMAND (DARCOM)

PROJECT MAMAGER OF READINESS PROJECT OFFICER RESPONSIBLE

OFFICE. THERE WORK IS FULLY EXPLAINED AND COORDINATED WITH THE GAINING COMMAND SINCE THE PURPOSE OF THE PLAN IS TO ASSURE THAT LOGISTICS SUPPORT FOR THE ITEM IS ON TIME AND ADEQUATE TO SUPPORT THE NEW USER AS HE TAKES RESPONSIBILITY FOR THE EQUIPMENT.

CHART 8 OFF

( RANSLATION)

CHART 9 ON THE MATERIEL FIELDING PLAN IS A PRECISE DOCUMENT WHICH

EXPLAINS STEP BY STEP THE ACTIONS REQUIRED BY THE DEVELOPMENT

AND MATERIEL READINESS COMMAND (DARCOM) AND THE GALLING

COMMAND. FOR AVIATION EQUIPMENT, DARCOM WOULD BE ;

REPRESENTED BY THE AVIATION RESEARCH AND DEVELOPMENT COMMAND

OR THE TROOP SUPPORT AND AVIATION MATERIEL READINESS COMMAND

AND THE GAINING COMMAND MIGHT BE THE 101ST AIRBORNE DIVISION (AIR ASSAULT).

LIPORTANT CONTENTS OF THE PLAN ARE:

- 1. A SYSTEM DESCRIPTION.
- 2. PROCEDURES FOR COMMAND AND CONTROL OF LOGISTICS SUPPORT BEFORE, DURING AND AFTER FIELD DEPLOYMENT.
- 4. A FORMAL, WRITTEN COMMITMENT MADE BY DARLOM AND CALLED THE "STATEMENT OF QUALITY AND SUPPORT" WHICH IS A WARRANTY FOR THE USER. IT IS A GUARANTEE THAT DARLOM WILL PROVIDE SPECIFIED SERVICES AND SUPPORT FREE OF CHARGE FOR A SPECIFIED TIME.

5. AND A DESCRIPTION OF THE SUPPORT THE GAINING.

COMMAND WILL PROVIDE TO THE MATERIEL FIELDING PROCESS.

CHART 9 OFF

(TRANSLATICH)

CHART 10 ON PROJECT HANDOFF IS THE CULMINATION OF THE MATERIEL. FIELDING EFFORT. IT REFERS TO THE IMPLEMENTATION OF THE PLAN WHEN THE EQUIPMENT IS ACTUALLY "HANDED OFF" TO THE RECEIVING UNIT. IT IS PERSONNEL FROM TSARCOM OR AVRADCOM WORKING SIDE BY SIDE WITH THE RICEIVING UNIT TO INSURE THAT THE NEW EQUIPMENT IS LOGISTICALLY SUPPORTED. SKYLLED GOVERNMENT, AND POSSIBLY, CONTRACTOR PERSONNEL ARE ASSIGNED TO A MATERIEL FIELDING TEAM WHICH ASSISTS INDIVIDUAL UNIT PERSONNEL IN ON-THE-JOB TRAINING IN OPERATIONS, MAINTENANCE AND SUPPLY TASKS, THE RESOLUTION OF TECHNICAL AND OPERATIONAL PROBLEMS AND PROCESSING OF WARRANTY C'AIMS ON THE EQUIPMENT.

TEAM ON-SITE ENABLES RAPID ACHIEVEMENT OF A FULLY
OF ERATIONAL STATUS WITH THE NEW EQUIPMENT.

CHART 10 OFF

(TRANSLATION)

BEFORE WE CONTINUE OUR BRIEFINGS WITH THE NEXT AVIATION LOGISTICS MANAGEMENT TECHNIQUE, ARE THERE ANY QUESTIONS?

### FLYING HOUR PROGRAM

CHART 11 ON OUR NEXT SUBJECT IS ONE OF THE MURE IMPORTANT TECHNIQUES WE HAVE FOR THE MANAGEMENT OF AVIATION LOGISTICS. THE FLYING HOUR PROGRAM IS SIMPLY A STATEMENT OF THE HOURS WE WILL FLY EACH MONTH BY TYPE ATRICRAFT TO SUPPORT OUR PEACETIME REQUIREMENT FOR TACTICAL MISSION TRAINING AND OUR REQUIREMENT FOR ADMINISTRATIVE FLIGHTS INCLUDING INITIAL AVIATOR TRAINING. IT SOUNDS SIMPLE, BUT IT IS ACTUALLY A COMPLEX PROCESS. THE IMPORTANCE OF THE FLYING HOUR PROGRAM BECOMES VERY EVIDENT WHEN WE CONSIDER WHAT WE LOGISTICIANS NEED TO KNOW IN CADER TO PROPERLY SUPPORT AVIATION UNITS. 5

CHART 11 OFF

(TRANSLATION)

CHART 12 ON WE NEED TO PROVIDE THEM WITH ADEQUATE AMMO, FUEL, REPAIR PARTS, NEW AIRCRAFT AND TRAINED PERSONNEL IN THE

PROPER QUANTITY AND AT THE TIME THEY NEED IT TO SUPPORT
THEIR TRAINING AND ADMINISTRATIVE FLYING NEEDS. THE KEY
TO PROVIDING THIS SUPPORT IS THE NUMBER OF HOURS THE
AIRCRAFT WILL FLY.

COMSTRUCTION OF THE FLYING HOUR PROGRAM BEGINS AT UNIT AND TRAINING COMMAND LLVEL. COMMANDERS IDENTIFY THEIR REQUIREMENT FOR INDIVIDUAL AND UNIT AVIATION TRAINING PLUS THEIR ADMINISTRATIVE FLIGHT REQUIREMENTS. THESE REQUIREMENTS ARE CONSOLIDATED AT EACH LEVEL AND PASSED TO THE DEPARTMENT OF THE ARMY. AT THIS LEVEL, THE REQUIREMENTS ARE BALANCED AGAINST PROJECTED FUND RESOURCES AND AFTER MECESSARY ADJUSTMENTS ARE MADE A FLYING HOUR PROGRAM IS ESTABLISHED. IT PROVIDES GUIDANCE TO AVIATION UNIT COMMANDERS ON THE NUMBER OF HOURS THEY ARE AUTHORIZED TO FLY TO ACCOMPLISH

THEIR TRAINING MISSION AND IT ESTABLISHES THE BASE FROM
WHICH WE LOGISTICIANS CAN IDENTIFY THE SUPPORT REQUIREMENTS
WE MENTIONED EARLIER. IT IS EXTREMELY IMPORTANT THAT
THE FLYING HOUR PROGRAM BE IDENTIFIED AS EARLY AS POSSIBLE
SO THAT THERE IS SUFFICIENT LEAD TIME TO ACQUIRE THE
MECESSARY SPARE PARTS AND PERSONNEL TO SUPPORT THE
ESQUIREMENT.

GENTLEMEN, I NAME SIMPLIFIED THE PROCESS IN THIS

EXPLANATION TO GIVE YOU A BASIC UNDERSTANDING OF WHY WE

USE THIS MANAGEMENT TECHNIQUE. MR. CRIBBINS WILL PROVIDE

YOU A MORE DETAILED EXPLANATION IF YOU DESIRE. THAT;

CONCLUDES THIS PORTION OF THE BRIEFING ON MANAGEMENT

TECHNIQUES. ARE THERE ANY QUESTIONS?

CHART 12 OFF

WORLDWIDE AVIATION LOGISTICS CONFERENCE.

OUR FINAL MANAGEMENT TOPIC IS THE WORLDWIDE AVIATION LOGISTICS CONFERENCE.

CHART 13 ON THIS CONFERENCE WAS DEVELOPED BY THE DEPARTMENT OF THE ARMY TO PROVIDE OPTIMUM SUPPLY SUPPORT TO OUR COMBAT FORCES

IN VIETNAM AND TO PLOVIDE INTENSIVE MANAGEMENT OF SELECTED

CRITICAL ITEMS IN THE ARMY LOGISTICS SYSTEM. PROVEN

SUCCESSFUL SINCE THE WALC ORIGINATED IN 1967, THE PROGRAM

HAS BEEN RETAINED AND NOW INCLUDES ALL MAJOR COMMANDERS

L'ORLDWIDE.

CHART 13 OFF

(TRANSLATION)

CHART 14 ON THE WALC HAS FOUR PRIMARY OBJECTIVES: THEY ARE:

1. TO PROVIDE CONTROL OF CRITICAL SERVICEABLE AIRCRAFT
ASSETS THROUGHOUT THE LOGISTICS PIPELINE.

- 2. TO INSURE THE TIMELY AVAILABILITY OF REPAIRABLE AIRCRAFT ASSETS AT DEPOT FACILITIES.
- 3. TO REDUCE THE BACKLOG OF UNSERVICEABLES AT ALL.
  LEVELS.
- 4. AND TO PROVIDE A TIMELY RESPONSE TO THE LOGISTICAL NEEDS OF AVIATION UNITS.

PEPARTMENT OF THE ARMY (DA). PARTICIPATION INCLUDES

REPRESENTATIVES FROM DA, THE US ARMY DEVELOPMENT AND

READINESS COMMAND, MAJOR ARMY COMMANDS AND ALL ACTIVITIES

DIRECTLY ASSOCIATED WITH ARMY AIRCRAFT. ALL PARTICIPANTS

THAVE THE OPPORTUNITY TO VOICE THEIR OPINIONS ON THE

PROBLEM AREAS THEY ARE ENCOUNTERING IN AIRCRAFT LOGISTICS

SUPPORT. FIELD COMMANDERS ARE ENCOURAGED TO PRESENT FOR DISCUSSION THEIR NEED FOR ADDITIONAL AIRCRAFT ASSIGNMENT DUE TO CHANGES IN MISSION; AND THEIR PROBLEMS IN REPAIR PARTS SUPPORT; MAINTENANCE SUPPORT; TRANSPORTATION OF SUPPLIES AND EQUIPMENT OR ANY OTHER ITEM OF INTEREST THAT MIGHT HAVE AN EFFECT ON THEIR ASSIGNED MISSION AND READINESS POSTURE. EACH ITEM ADDRESSED DURING THE CONFERENCE WILL BE RESOLVED ON THE SPOT OR THE ACTION WITH AN APPROPRIATE SUSPENSE DATE WILL BE ASSIGNED TO THE RESPONSIBLE AGENCY.

THE CONFERENCE ENDS WITH A GENERAL OFFICER REVIEW;

BOARD WHICH REVIEWS A SUMMARY OF THE PROBLEMS AND PROGRAMS

PRESENTED DURING THE CONFERENCE AND THE PROPOSED SOLUTIONS.

FINAL APPROVAL ON ALL AGENDA ITEMS IS ACCOMPLISHED BY *
DEPARTMENT OF THE ARMY (DA) AND PUBLISHED AND DISTRIBUTED

TO ALL CONCERNED ACTIVITIES.

WE BELIEVE CONFERENCES OF THIS TYPE ARE AN EXCELLENT MANAGEMENT TECHNIQUE. THE SIMPLE ACT OF BRINGING TOGETHER REPRESENTATIVES OF AVIATION ACTIVITIES FOR DISCUSSION AND RESOLUTION OF PROGRAMS AND PROBLEMS CAN DO MUCH TO ENHANCE THE LOGISTICS SUPPORT OF AVIATION ASSETS.

GENTLEMEN, THIS CONCLUDES MY BRIEFING. ARE THERE ANY QUESTIONS?

CHART 14 OFF

# RATIONALIZATION, STANDARDIZATION, AND INTEROPERABILITY (RSI) CONCEPT

CHART 1 ON THE FINAL SUBJECT WE WOULD LIKE TO DISCUSS WITH YOU IS THE UNITED STATES GOVERMENT'S POLICY ON RATIONALIZATION, STANDARDIZATION AND INTEROPERABILITY (RSI). THE RSI POLICY IS DESIGNED TO STRENGTHEN THE ALLIANCE CAPABILITIES AMONG THE NORTH ATLANTIC TREATY ORGANIZATION AND THE AMERICAN, BRITISH, AND AUSTRALIAN ARMIES THROUGH THE USE OF COMBINED AND INTEGRATED FORCES RATHER THAN DEPENDING SOLELY ON NATIONAL RESCURCES. WE BELIEVE THE ELEMENTS OF THIS U. S. POLICY WILL ALSO BE OF GREAT IMPORTANCE TO YOUR ARMY AND OURS AS U. S. FORCES WITHDRAW FROM THE REPUBLIC OF KOREA.

NOW, I'D LIKE TO DEFINE THE RSI PROGRAM FOR YOU BY REVIEWING THE MEANING OF EACH ACTIVITY AND BY PROVIDING

A BRIEF, EXAMPLE OF INTEROPERABILITY AND STANDARDIZATION.

CHART 1 OFF

(TRANSLATION)

CHART 2 ON HERE IS A SYNOPSIS OF THE DEFINITION OF RATIONALIZATION.

ESSENTIALLY, RATIONALIZATION IS THE COMMITMENT OF A GOVERNMENT

TO INTEROPERATE, STANDARDIZE, OR SOME COMBINATION THEREOF

WITH ITS ALLIES.

CHART 2 OFF

(TRANSLATION)

CHART 3 ON HERE IS THE DEFINITION OF INTEROPERABILITY. (PAUSE).

A TYPICAL EXAMPLE OF AN INTEROPERABILITY ACTION WOULD BE

AN AGREEMENT TO INSURE AIRCRAFT FUEL TANK RECEPTACLES

WOULD ACCEPT THE NOZZLES OF OTHER COUNTRIES REFUELING;

EQUIPMENT.

CHART 3 OFF

CHART 4 ON HERE IS THE DEFINITION OF STANDARDIZATION. (PAUSE)

A TYPICAL EXAMPLE OF A STANDARDIZATION ACTION WOULD BE YOUR ADOPTION OF THE THREE-LEVEL MAINTENANCE DOCTRINE AND ORGANIZATIONS. ANOTHER EXAMPLE WOULD BE YOUR ADOPTION OF THE PHASED MAINTENANCE AND ON CONDITION MAINTENANCE PROCEDURES. WHEN YOU STANDARDIZE LOGISTICS DOCTRINE, PROCEDURES AND SYSTEMS WITH US, WE WILL BE MORE ABLE TO ASSIST YOU ... PEACE AND WAR.

CHART 4 OFF

(TRANSLATION)

GENTLEMEN, RSI IS A COMMITMENT ON THE PART OF OUR

ARMY TO PROMOTE THOSE ACTIONS ENHANCING ITS ABILITY TO

OPERATE WITHIN ITS ALLIANCES. YOUR INTEREST AND ACTIONS

WILL DETERMINE YOUR CAPABILITY TO GIVE AND RECEIVE SUPPORT

FROM ALLIED NATIONS. THIS CONCLUDES MY BRIEFING. ARE THERE

ANY QUESTIONS?



ARMY AVERTION
LOGISTICS
WORKSHOP

APRIL

1979

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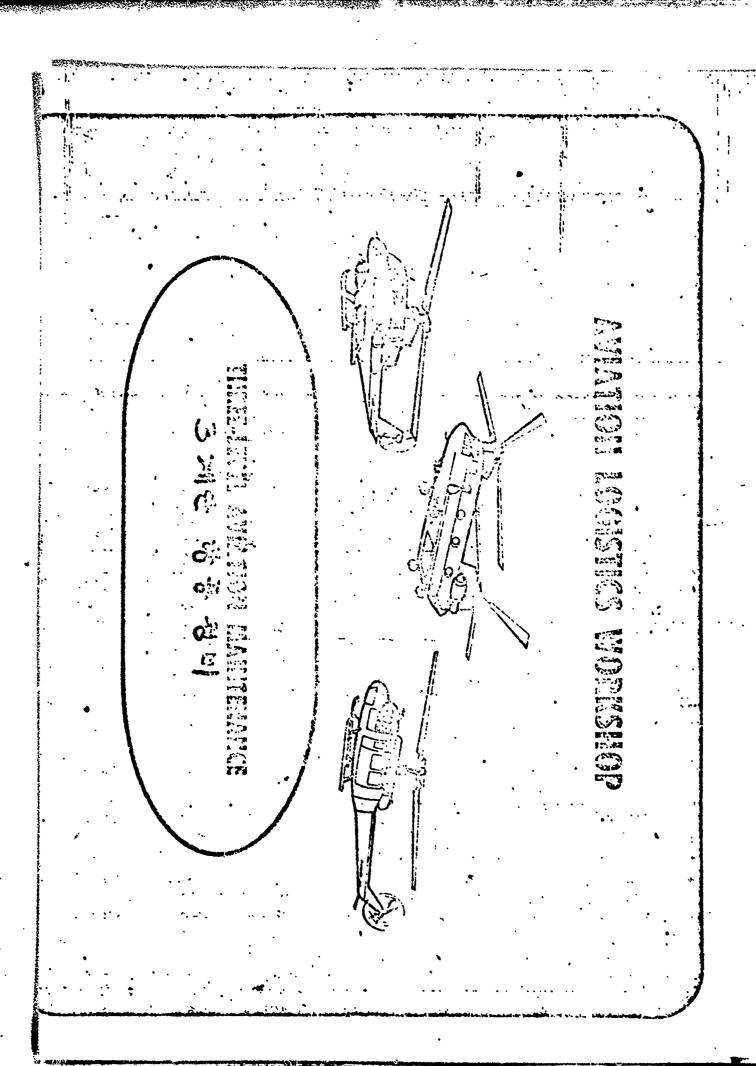
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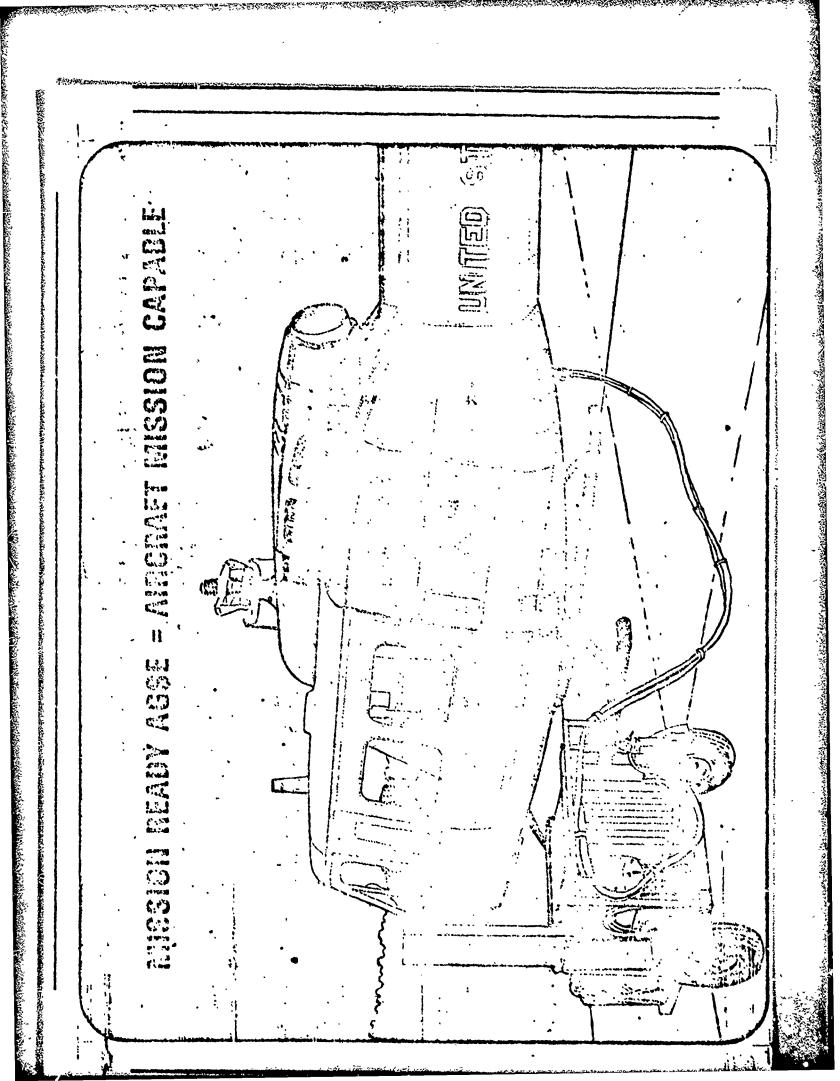
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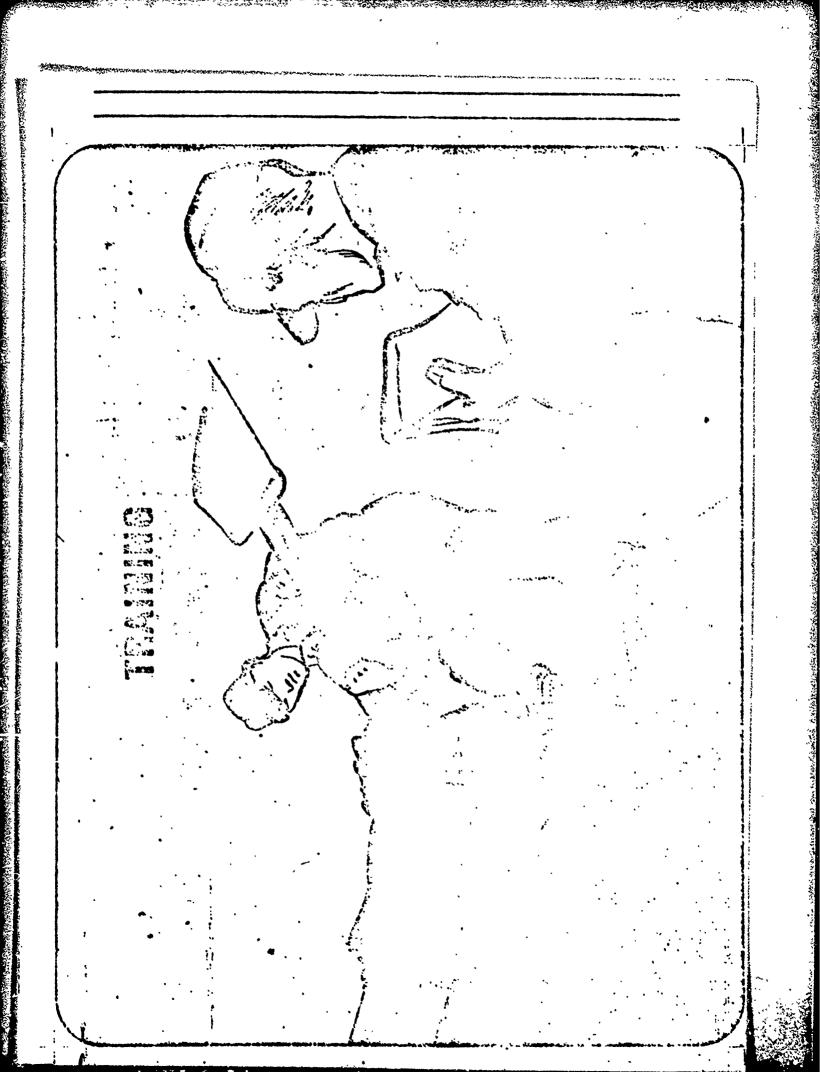
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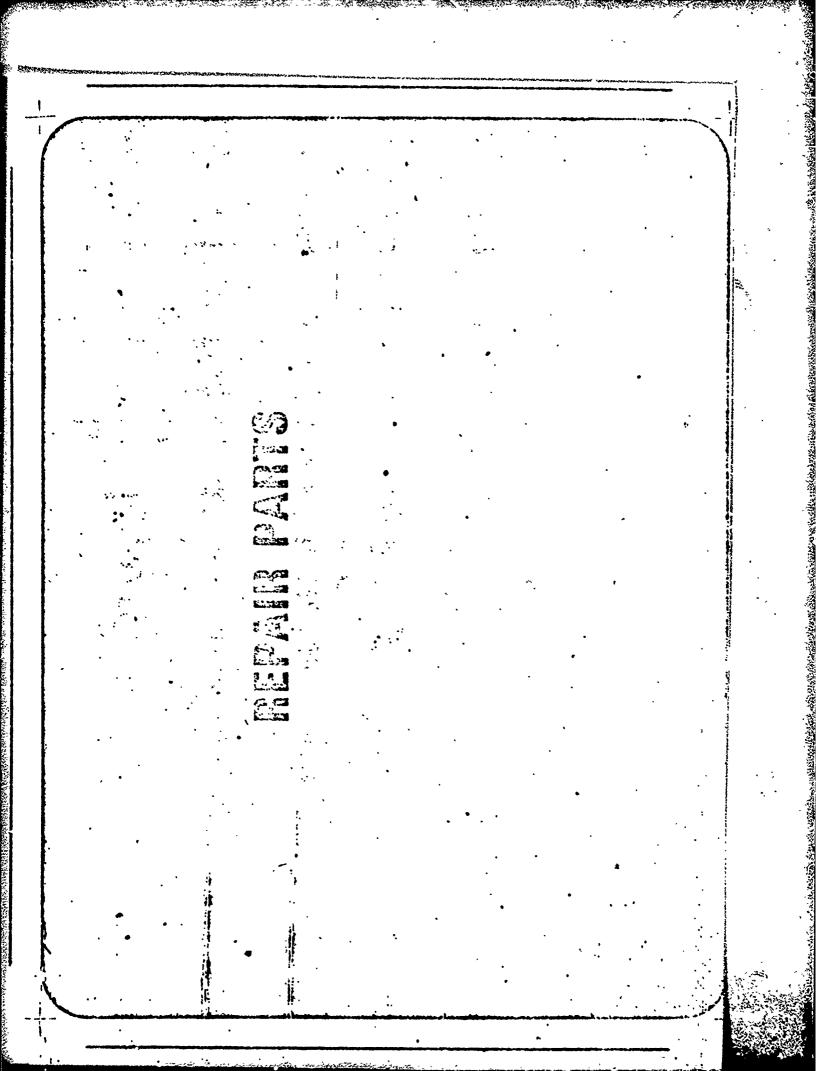
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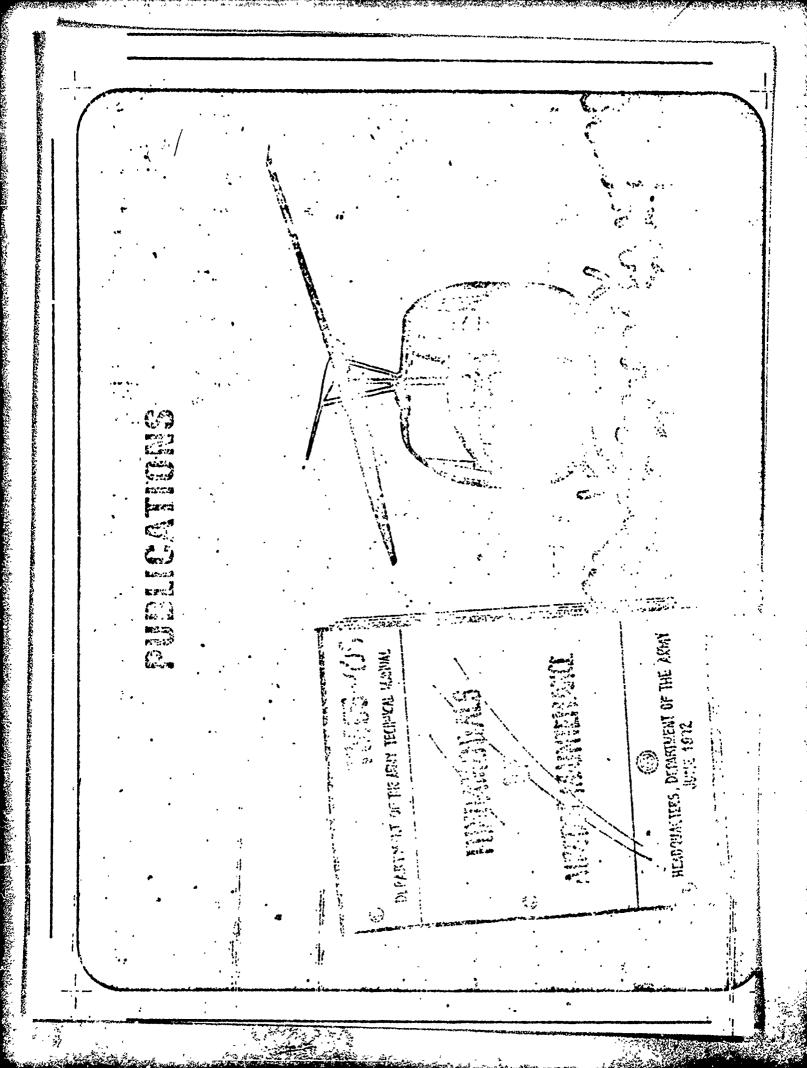
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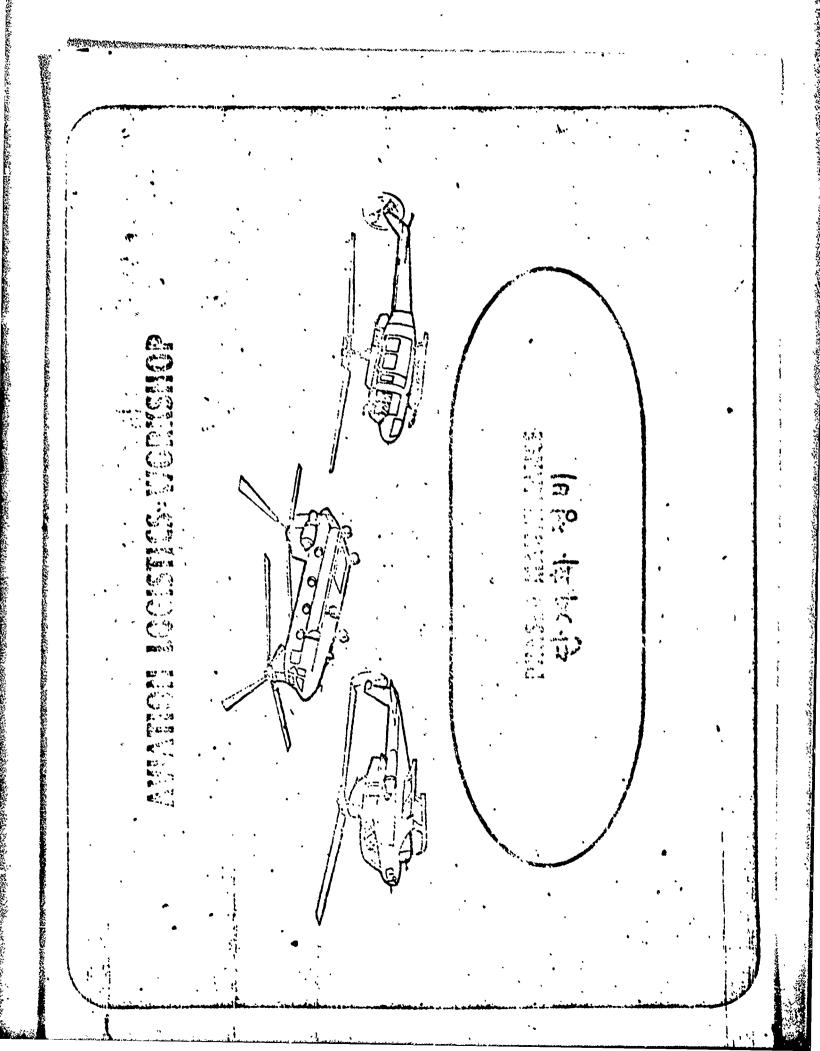
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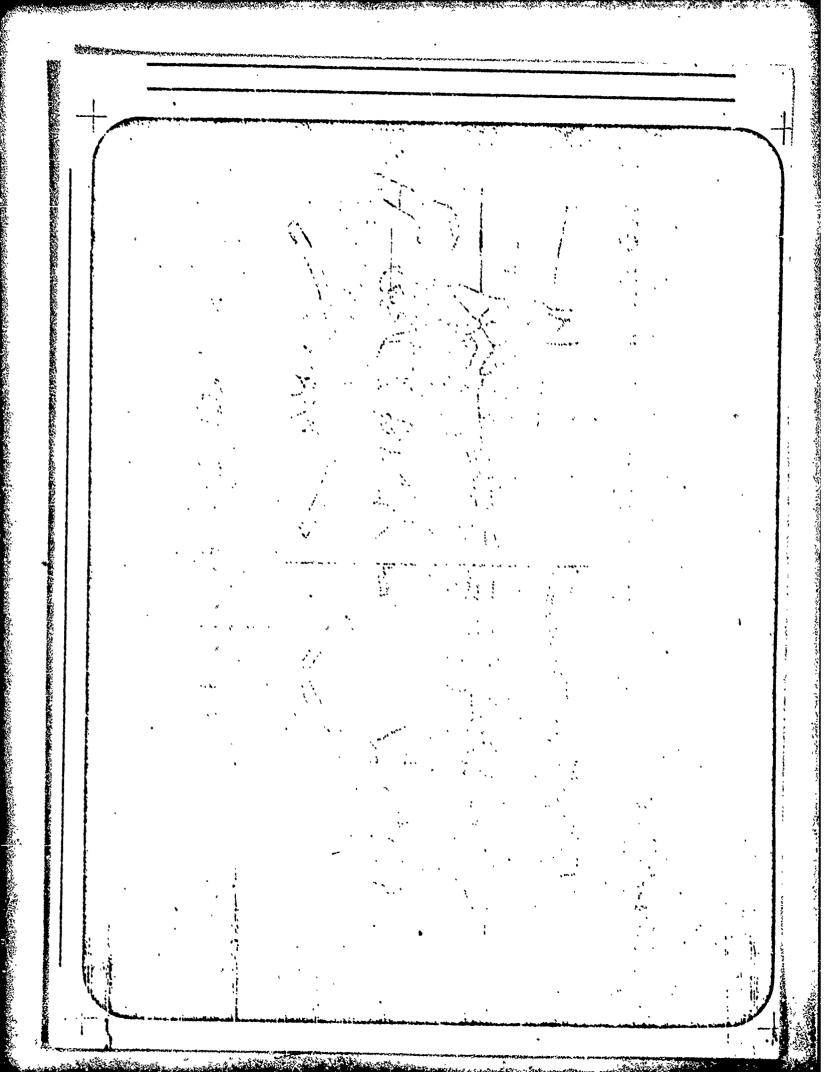


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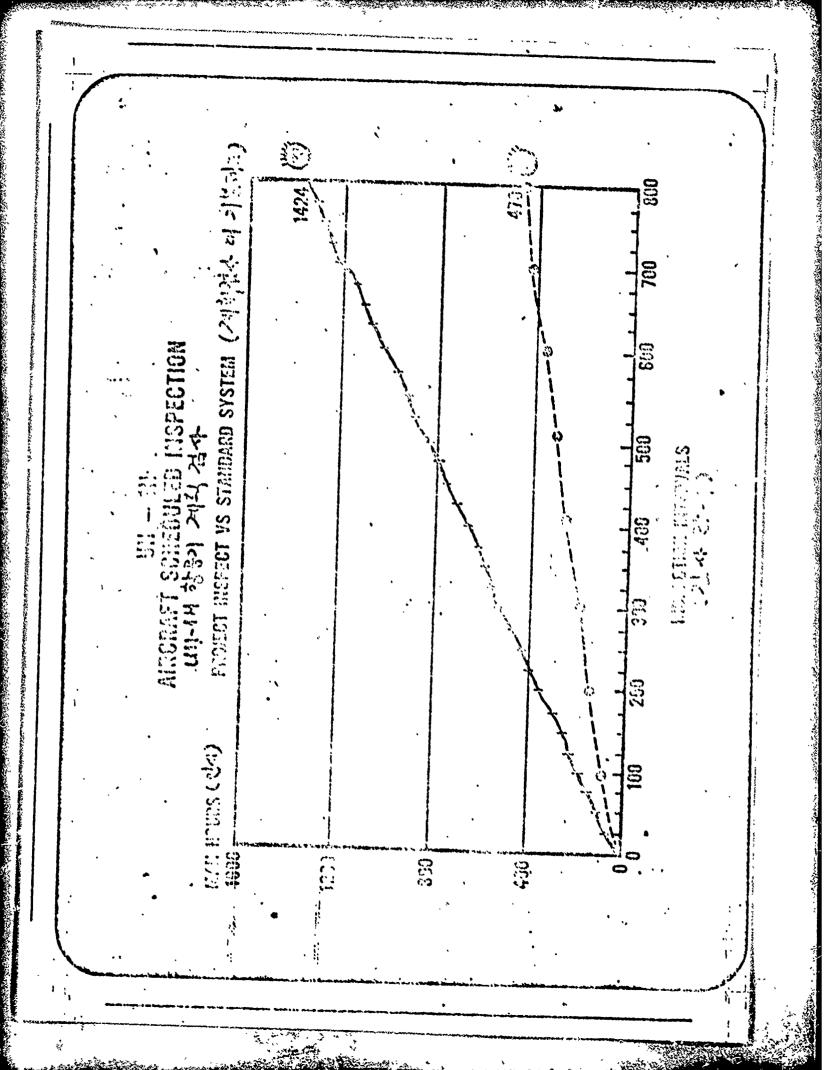
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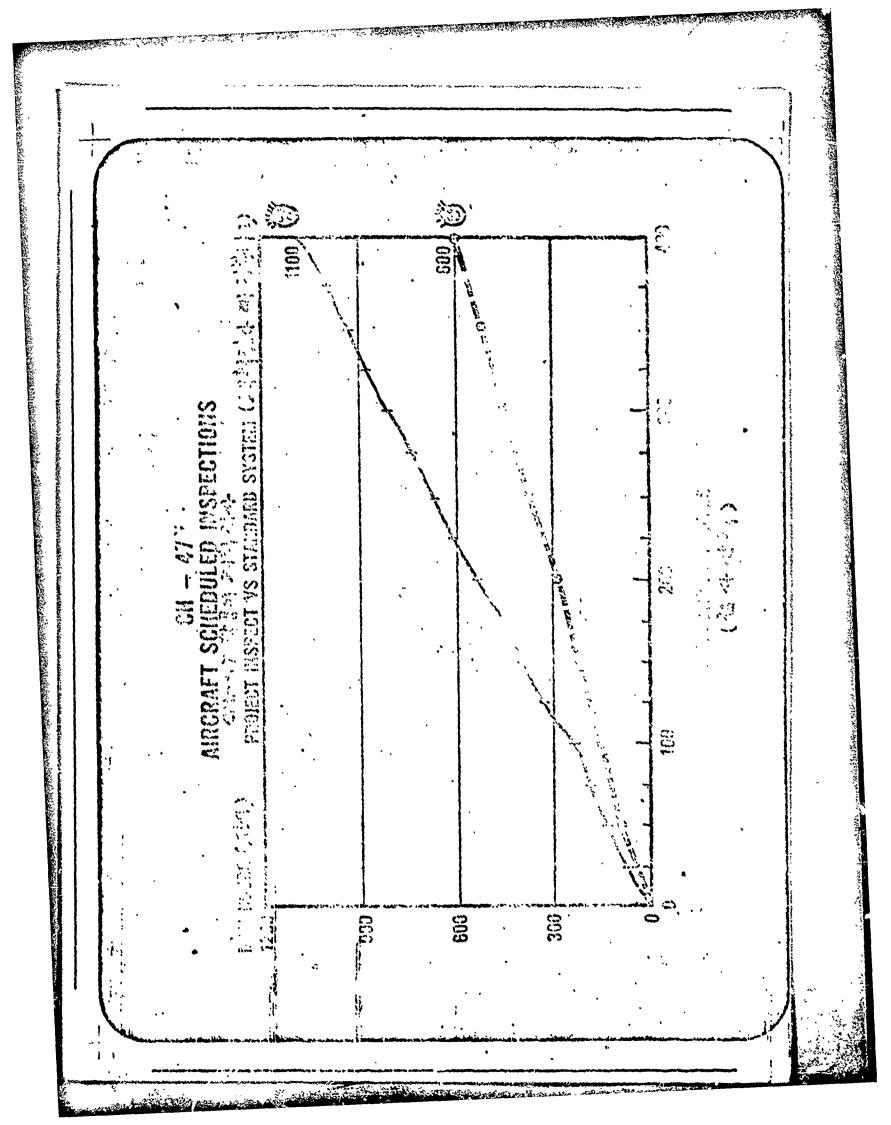
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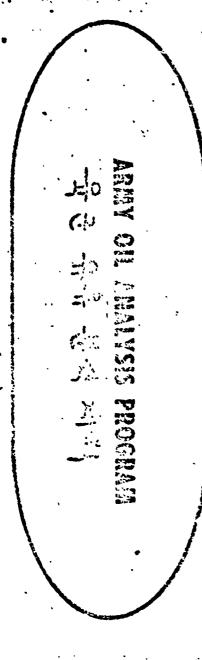
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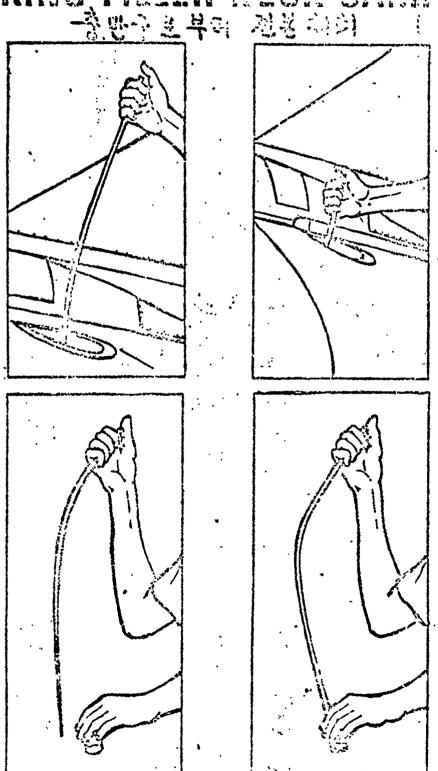
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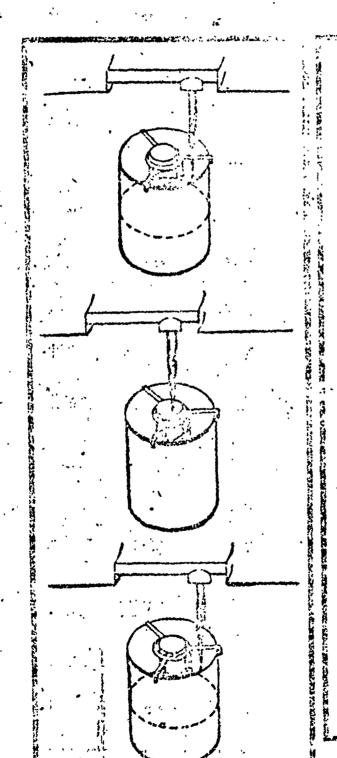


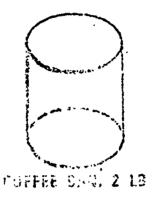
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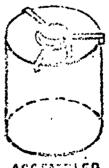
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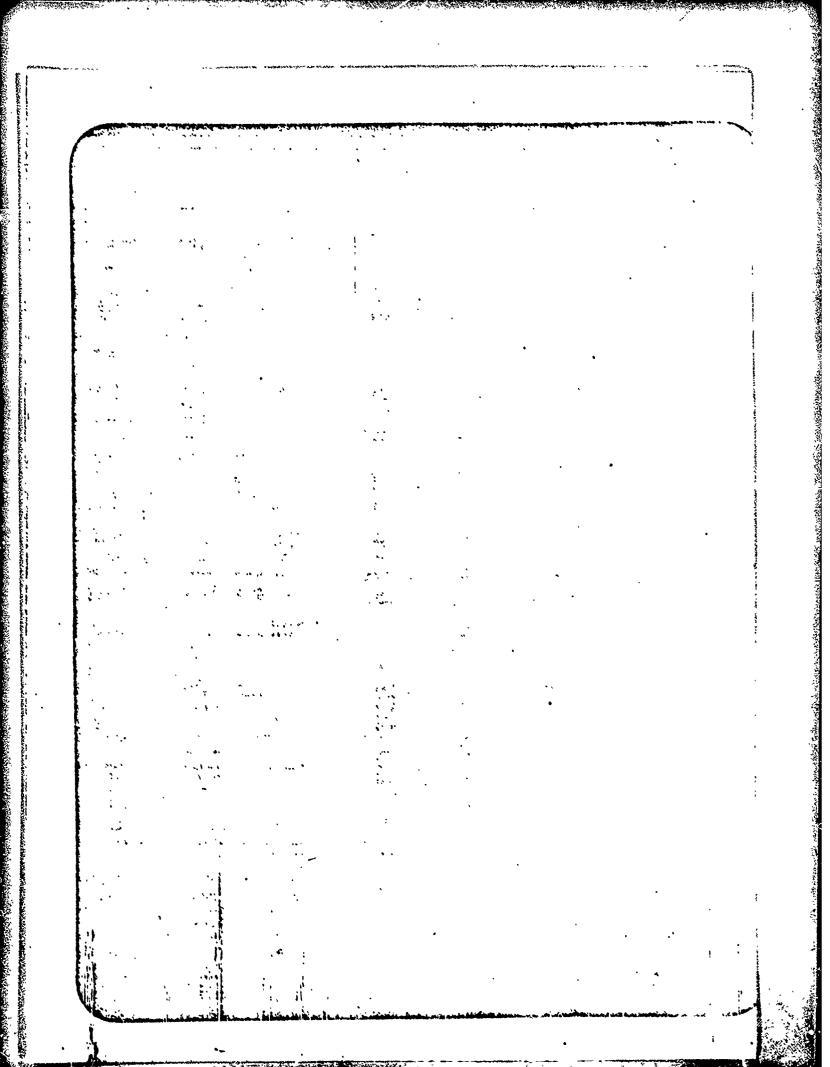
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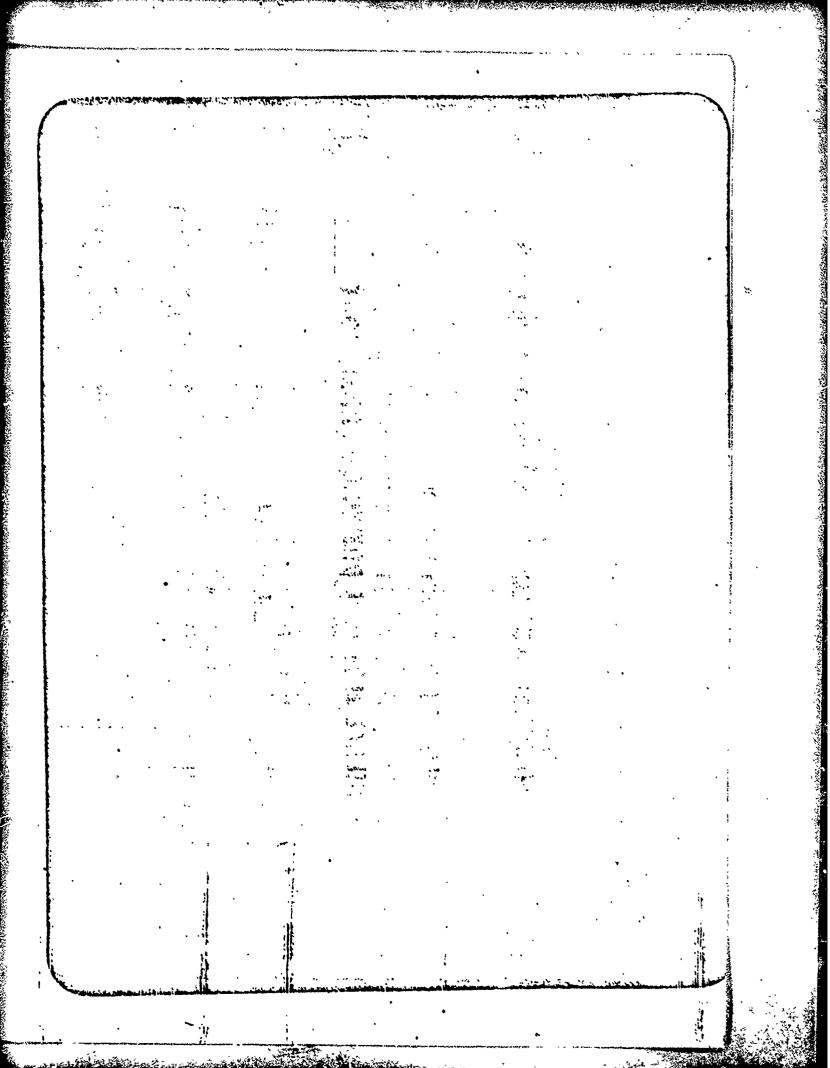
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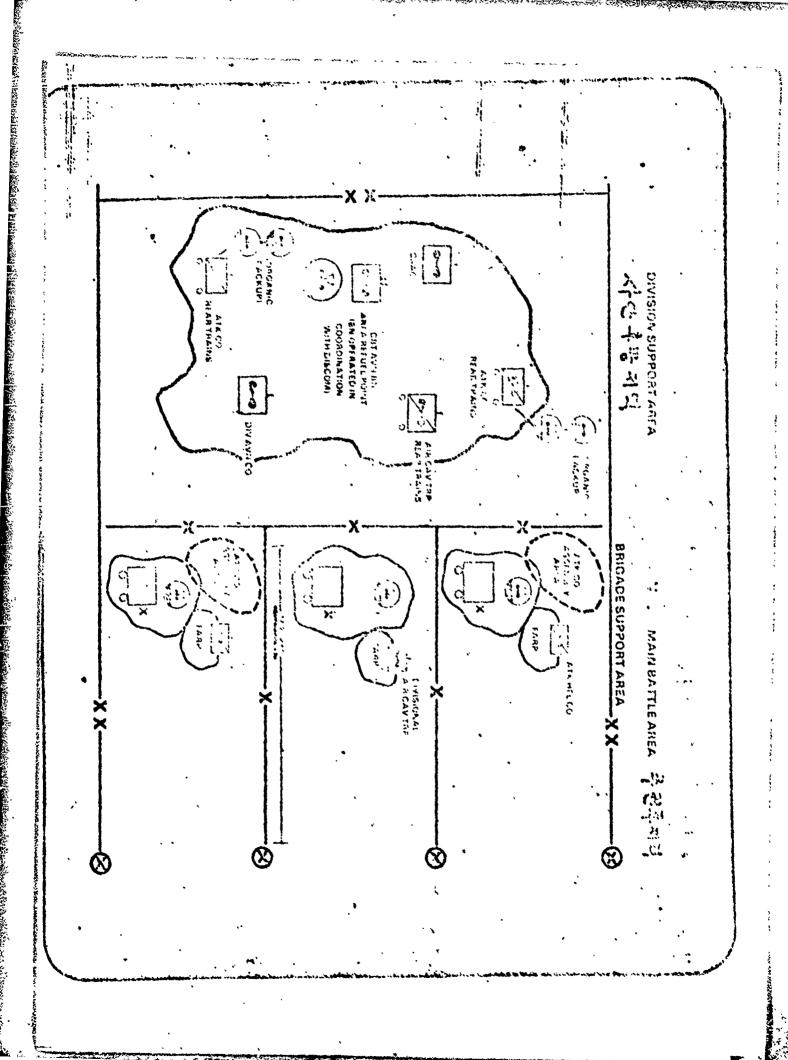
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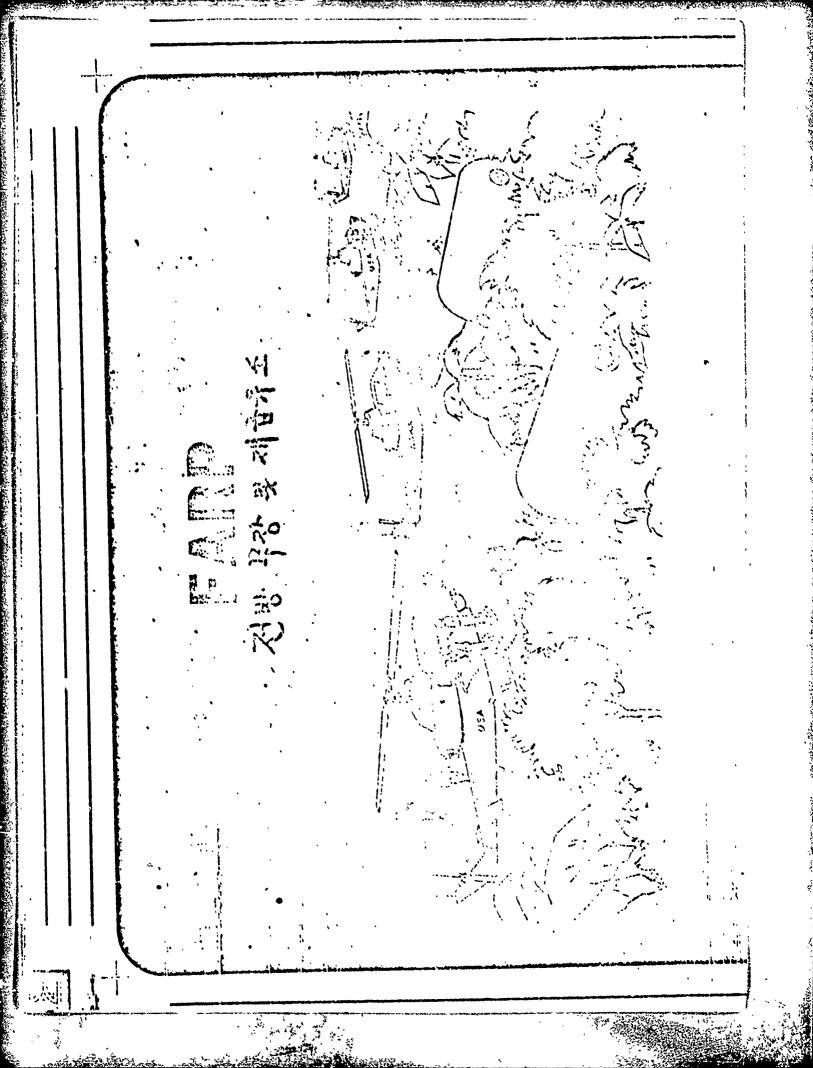
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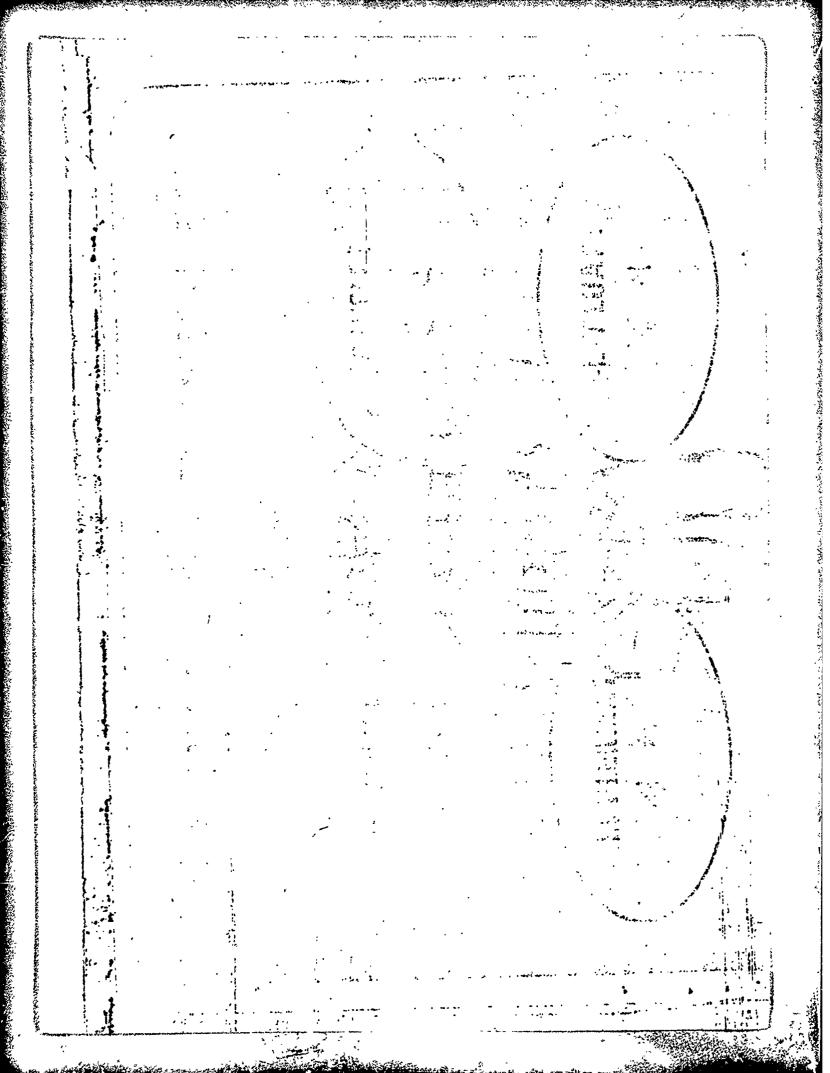
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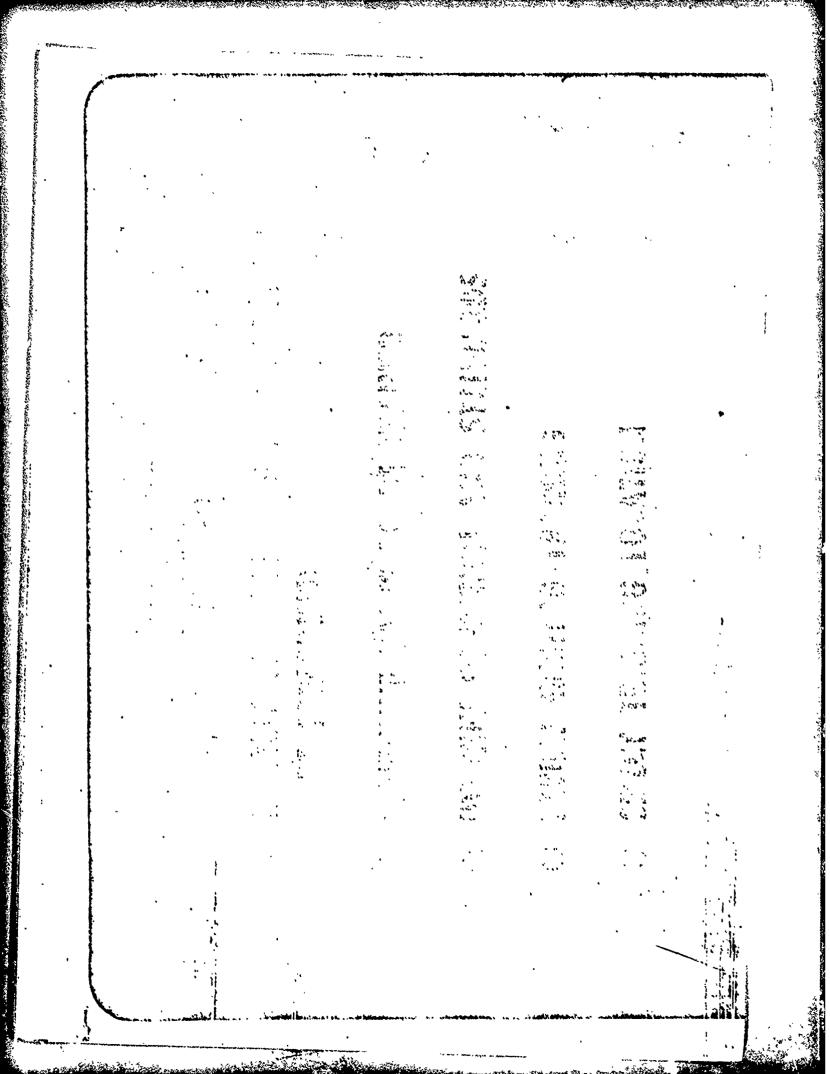
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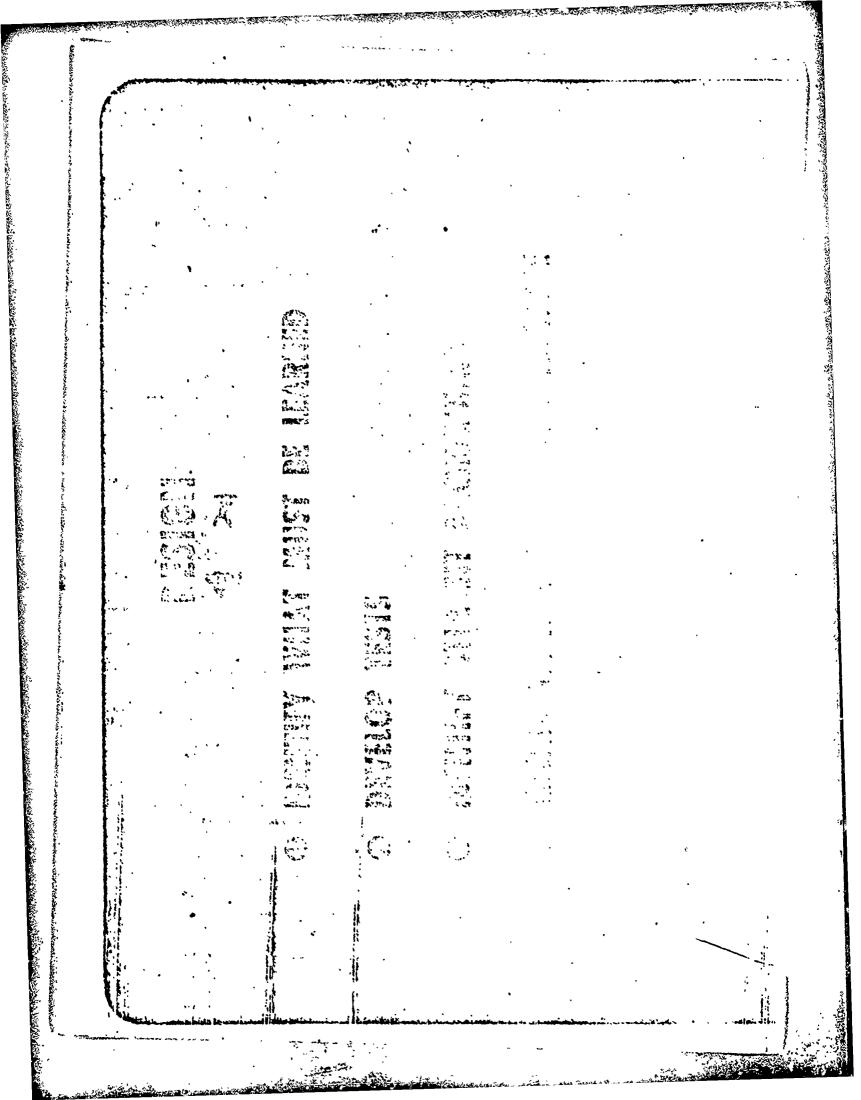
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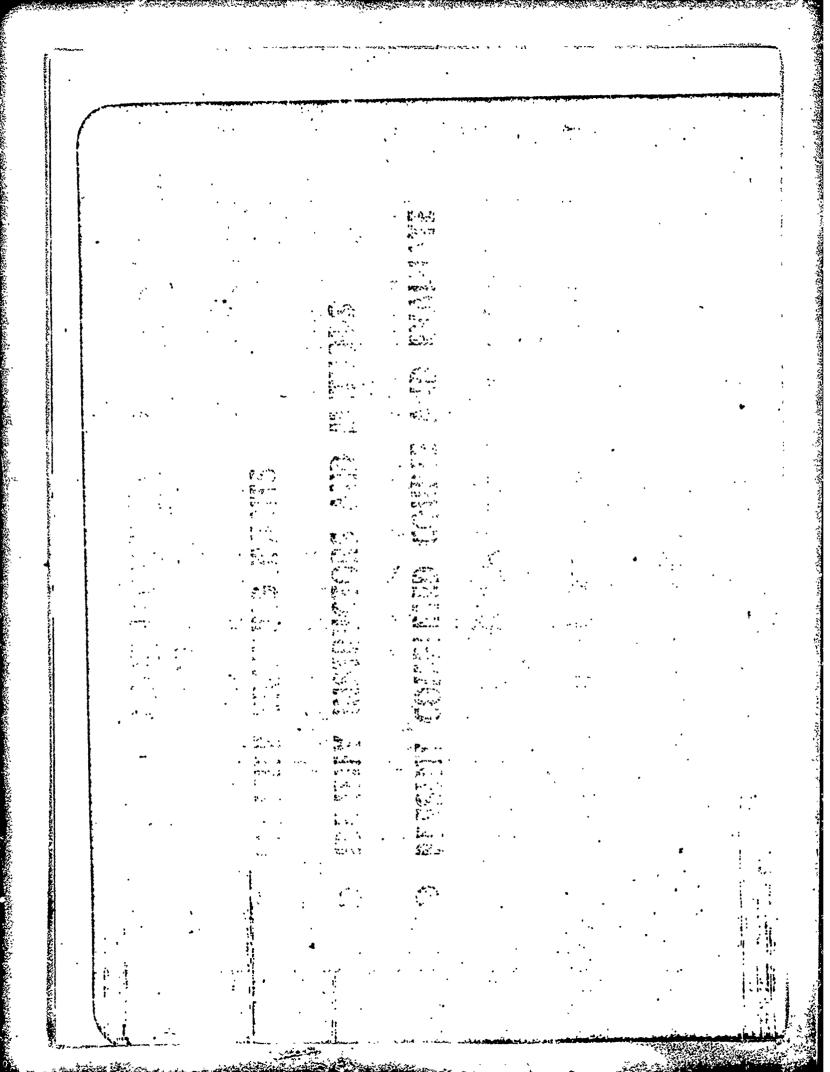
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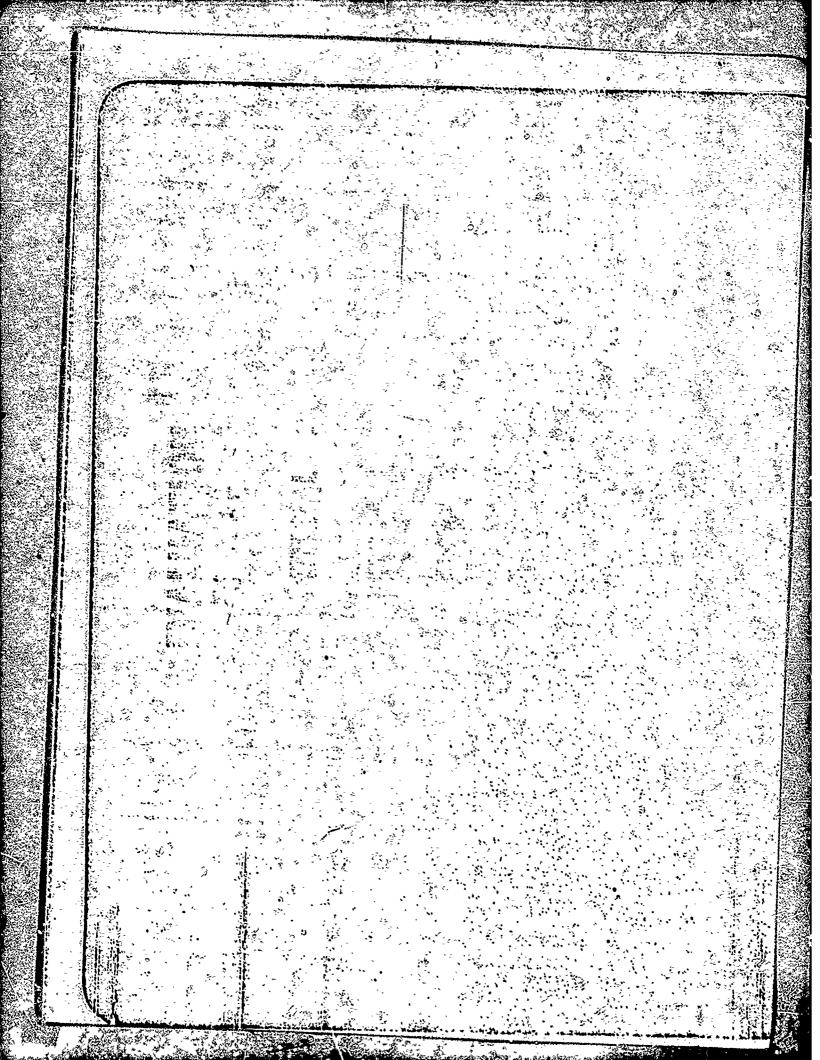
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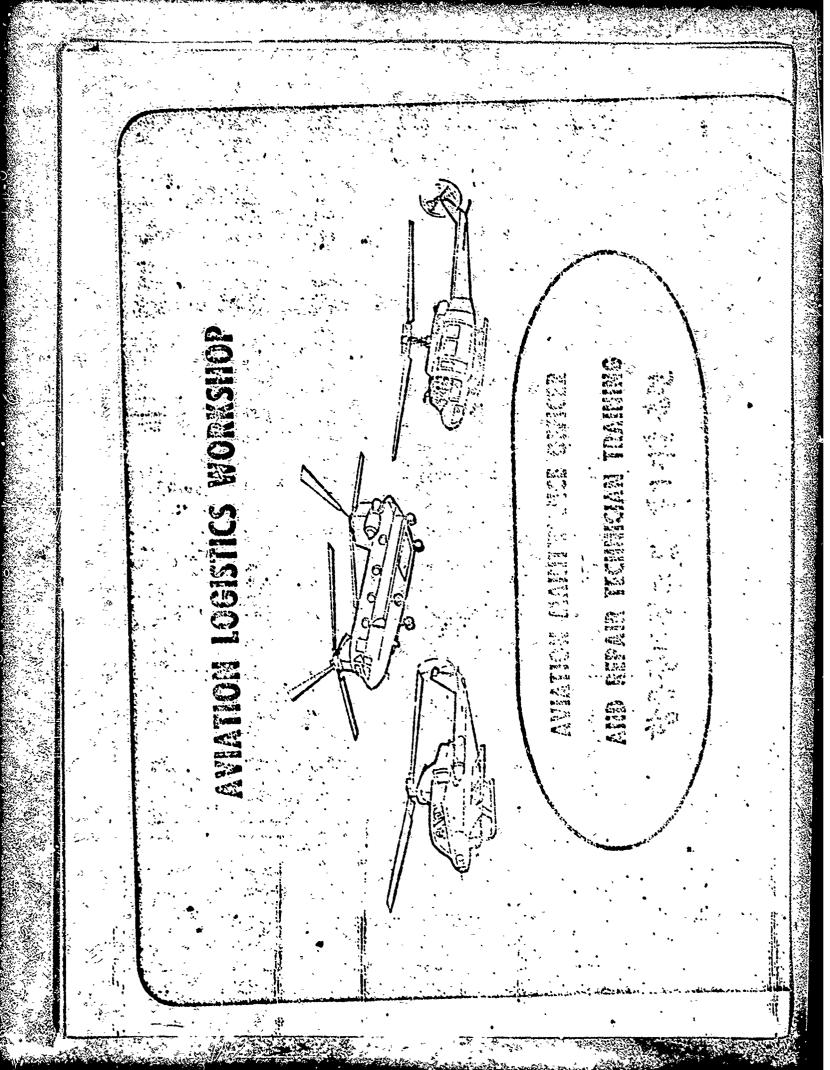








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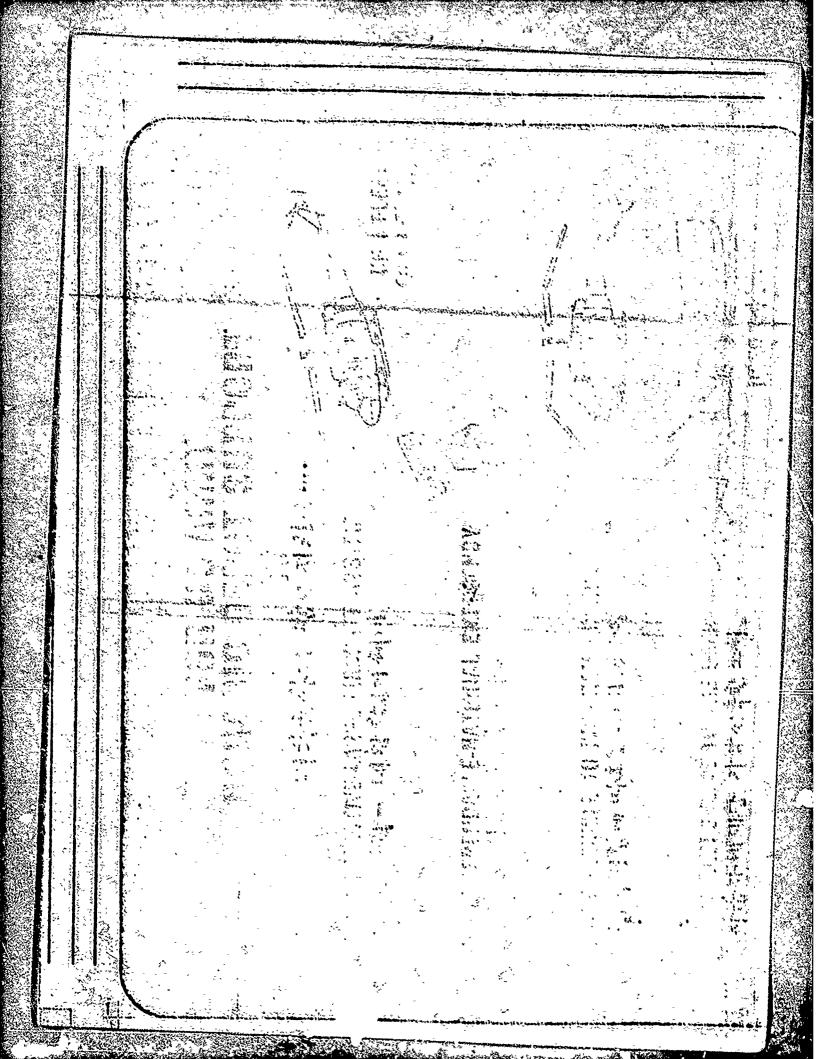
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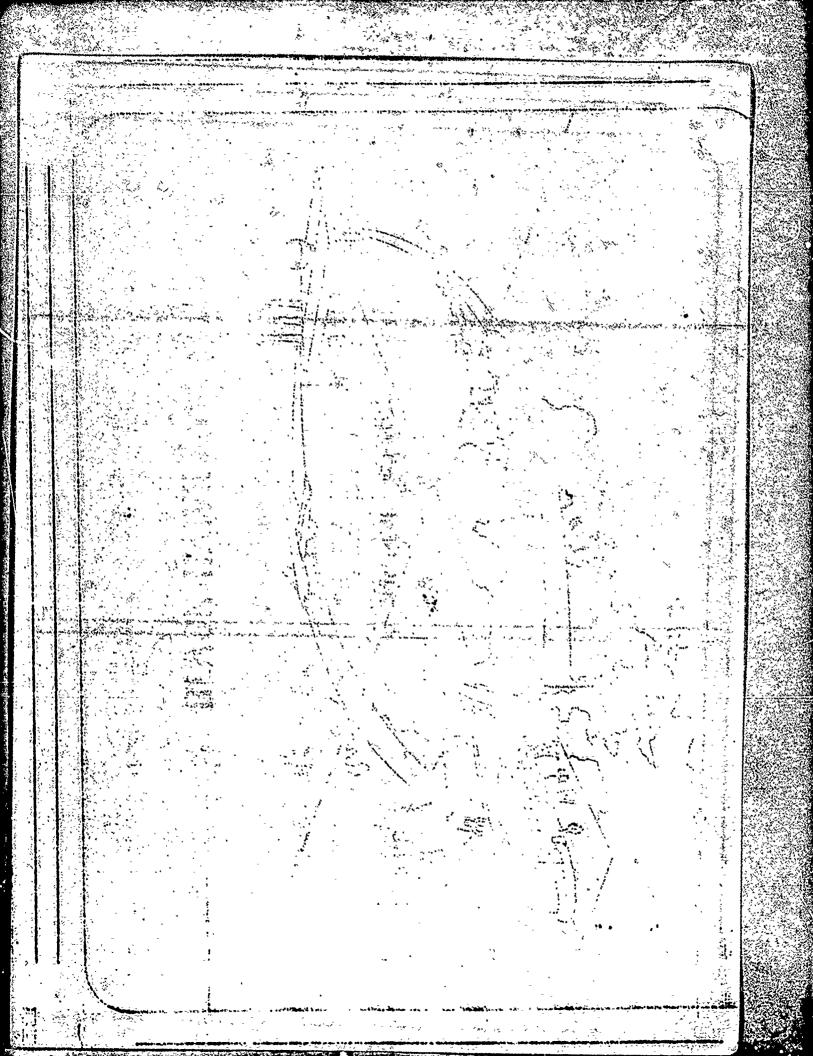
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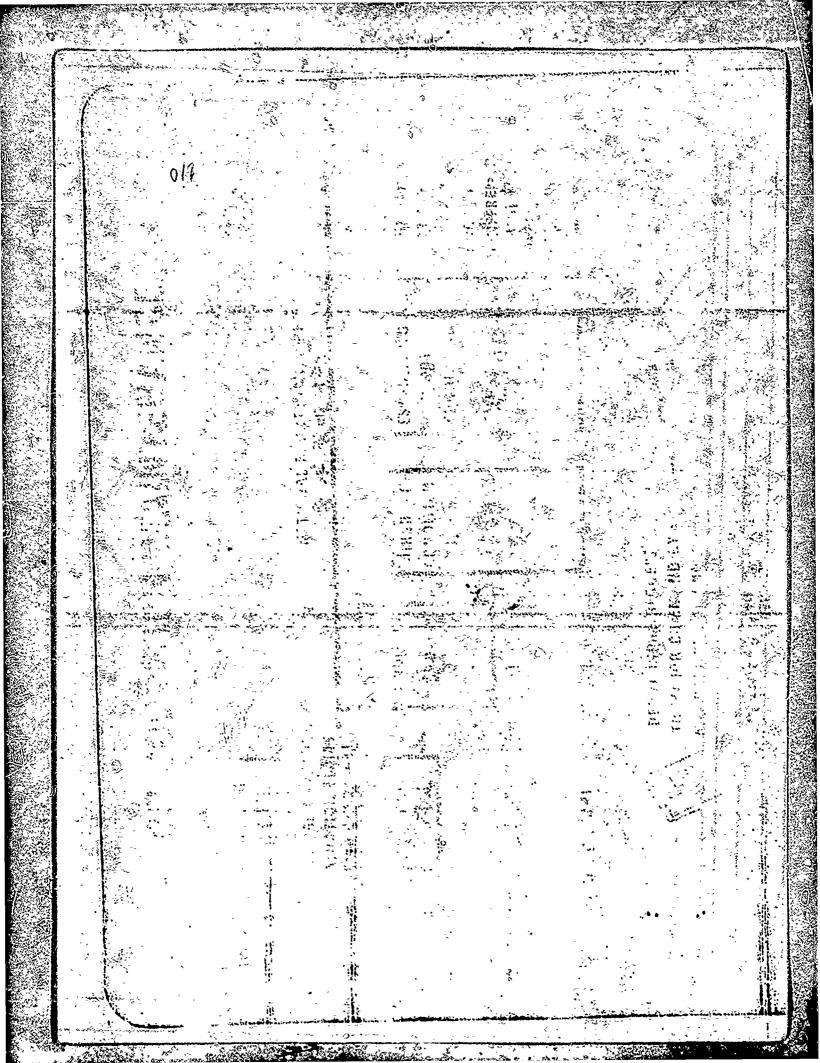
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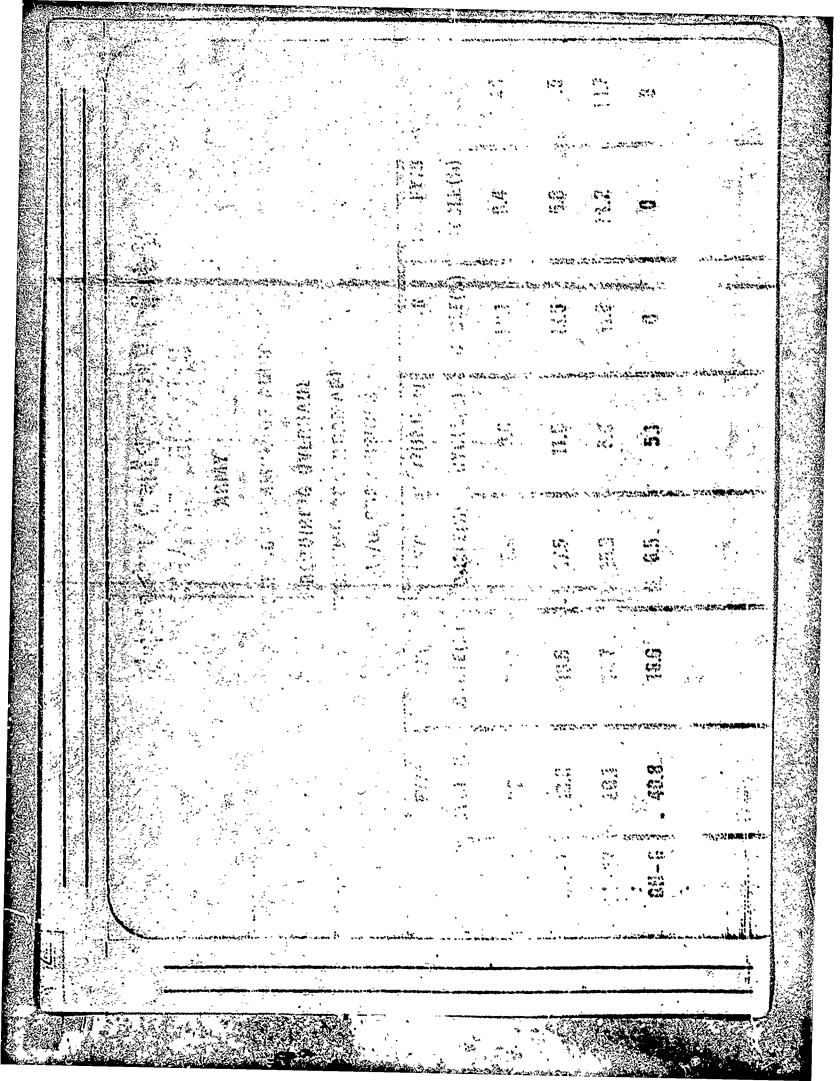
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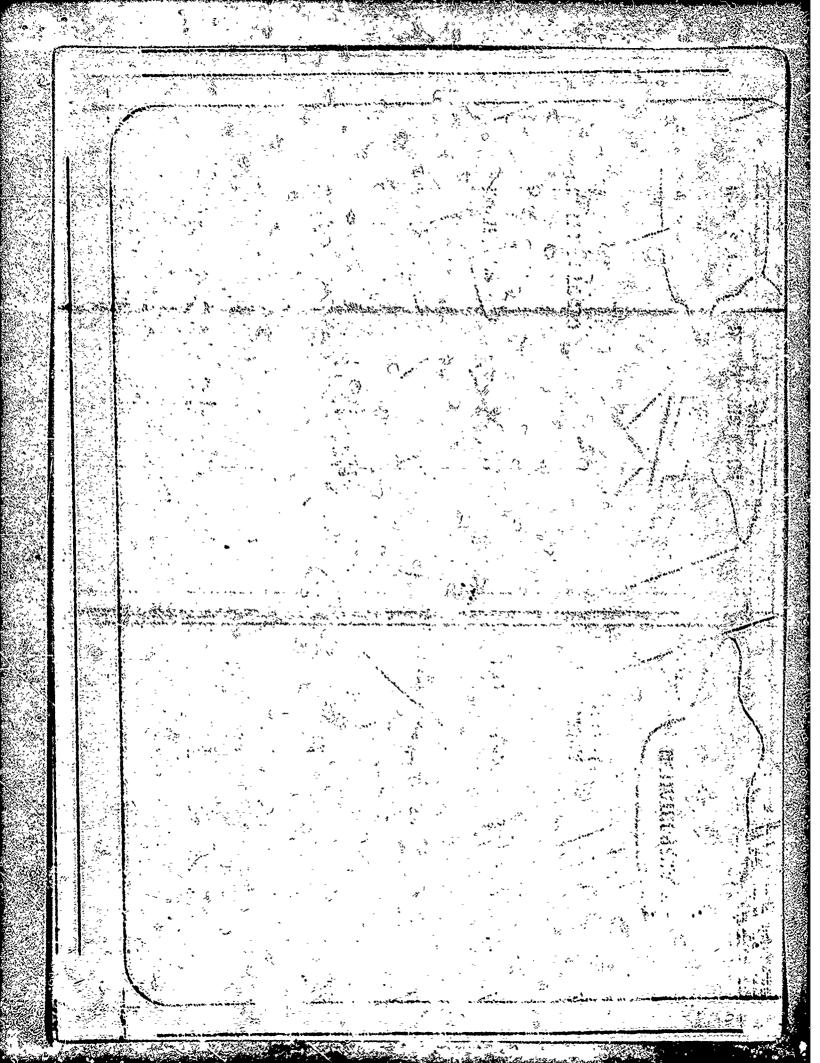


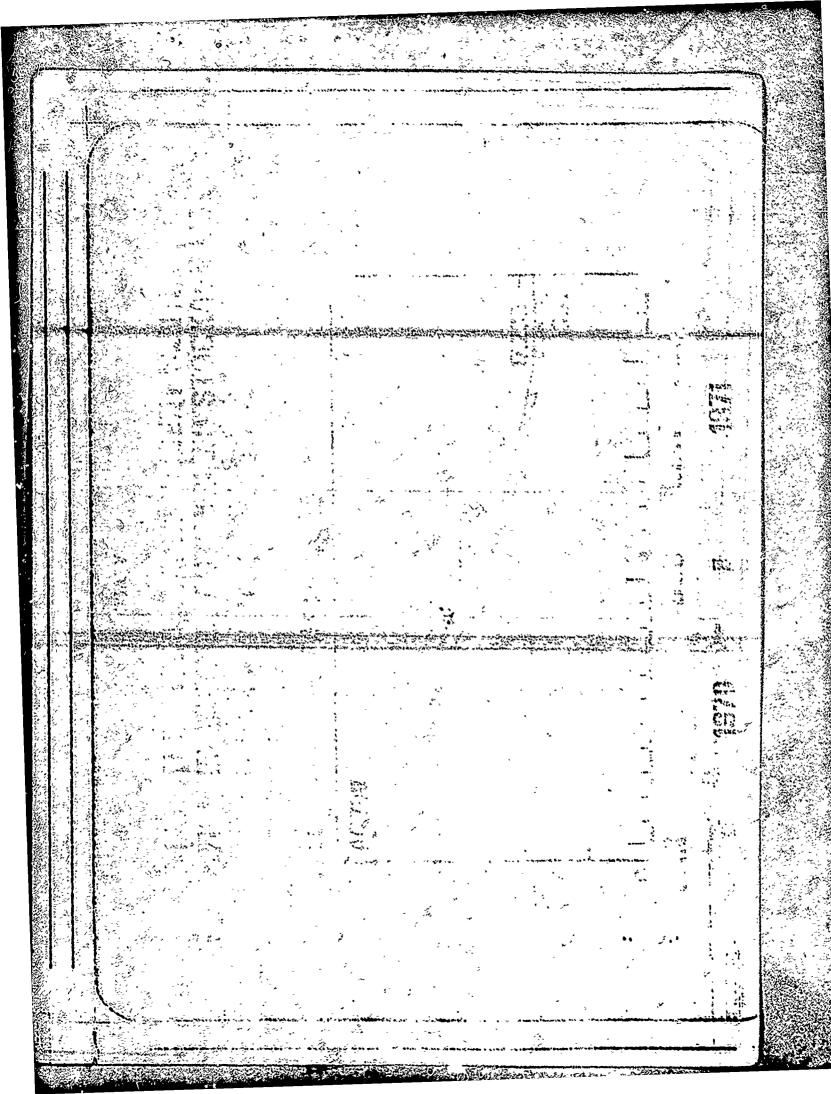


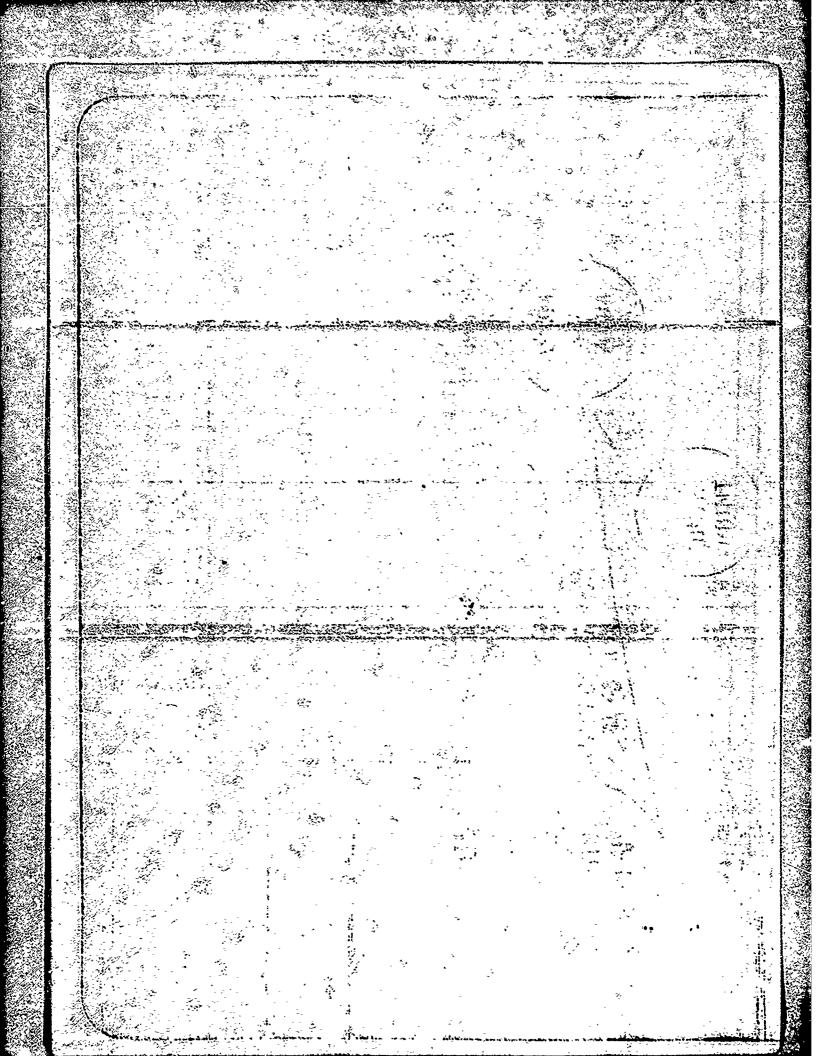
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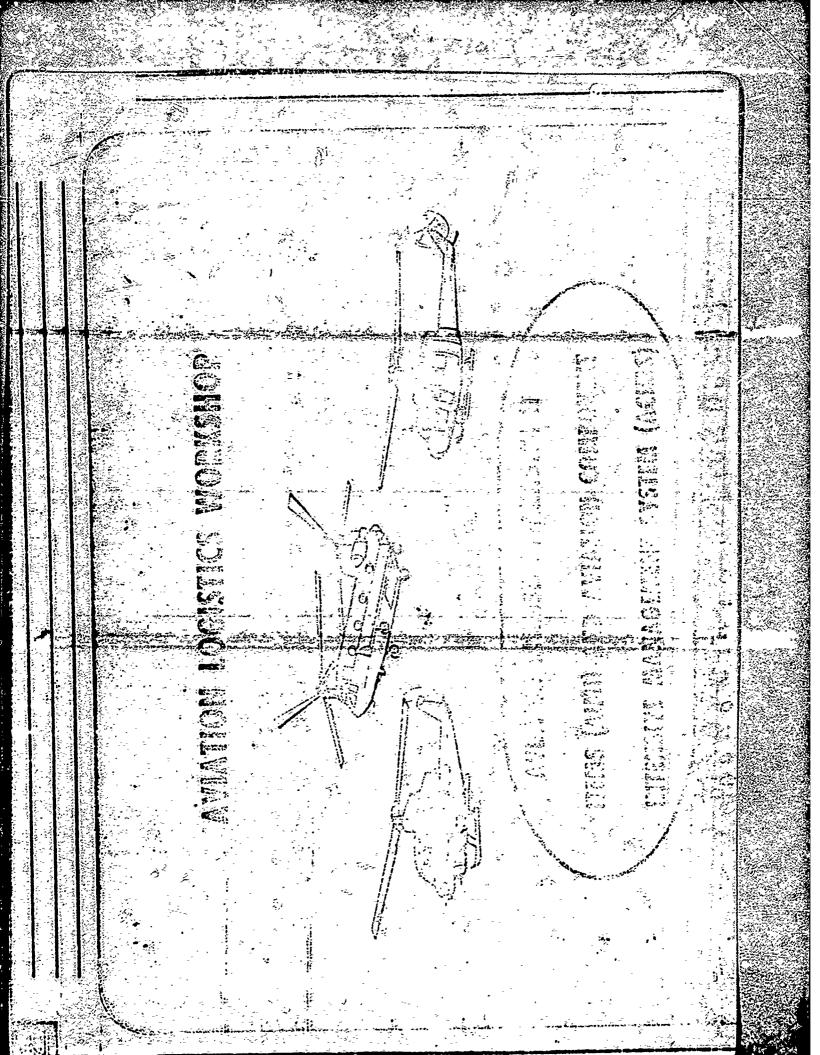












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